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ABSTRACT

This research bulletin includes reports of research in progress or recently completed from September 1975 through February 1976. Each entry includes information concerning the investigators, purpose, subjects, methods, duration, cooperating groups, and findings (if available). The reports are listed under several topical headings: (1) Long-Term Research, (2) Growth and Development, (3) Special Groups of Children, (4) The Child in the Family, (5) Socioeconomic and Cultural Factors, (6) Educational Factors and Services, (7) Social Services, and (8) Health Services. In addition to the reports on research, "Perceptual Motor Abilities: A Bibliography" is included, which updates previous ERIC Clearinghouse on Early Childhood Education bibliographies on the subject. The bibliographic sources include ERIC documents, journal articles, books, and pamphlets. (Author/SB)

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ERIC Clearinghouse on Early Childhood Education

ERIC CLEARINGHOUSE
ON EARLY CHILDHOOD EDUCATION

University of Illinois
805 West Pennsylvania Avenue
Urbana, Illinois 61801

Lilian G. Katz
Director

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RESEARCH RELATING TO CHILDREN

Bulletin 36

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September 1975 - February 1976

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NOTES: *Research Relating to Children* is prepared by the ERIC Clearinghouse on Early Childhood Education under the direction of Lilian G. Katz, Ph.D. Investigators who wish to submit abstracts of their research projects should address correspondence to:

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ERIC Clearinghouse on Early Childhood Education
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PREFACE

Research Relating to Children, Bulletin 36 includes reports of research in progress or recently completed research. With the exception of the section on Long-Term Research, it does not repeat studies included in *Bulletins 3* through *35* even though they are still in progress. This issue, therefore, does not reflect all research relating to children, but only research reported to us from September 1975 through February 1976.

In addition to reports of current research, *Bulletin 36* contains *Perceptual Motor Abilities: A Bibliography*, which updates previous ERIC Clearinghouse on Early Childhood Education bibliographies on the subject. The bibliographic sources include ERIC documents, journal articles, books, and pamphlets that we hope you will find useful.

Publication references and plans are cited in the abstracts of research in the bulletin. The Clearinghouse, however, does not maintain information on the publications of the investigators. If you wish to obtain further details about any of the projects, please check professional journals in the appropriate field or write directly to the investigator.

We wish to thank investigators who have submitted reports of their research and those who have informed us of other studies. We wish to acknowledge the valuable assistance of the Science Information Exchange and the foundations that provided us with information about their research grants.

Lilian G. Katz, Ph.D.
Director
ERIC Clearinghouse on Early Childhood Education

To Research Investigators:

This publication is only as complete as you are willing to make it. On page 167 you will find a form for reporting your current research. On page 171 you will find a form to let us know of other investigators who are working in the field. Please let us hear from you.

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PERCEPTUAL MOTOR ABILITIES: A BIBLIOGRAPHY

This selective bibliography on the perceptual motor abilities of children is divided into five sections: (1) Perceptual Motor Coordination, (2) Perceptual Motor Learning, (3) Perceptual Motor Programs, (4) Visual Perception Skills, and (5) Books.

Citations of ERIC documents (denoted by an ED number) appeared in *Research in Education (RIE)*, and citations of journal articles appeared in *Current Index to Journals in Education (CIJE)* from January 1973 through January 1976. Books and journal articles are available in public libraries. ERIC documents may be ordered from:

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ERIC studies may be ordered on Microfiche (MF) or on hard copy (HC). To read MF (a transparent film card), use a microfiche reader available in most libraries. HC is a photocopy of the original document.

Major descriptors (marked with asterisks) and minor descriptors appear under each citation. Descriptors with asterisks denote the document's major subject matter; terms without asterisks suggest topics of lesser import that are covered in the document.

Perceptual Motor Coordination

Albierto, Charles A. Assessing perceptual motor competency. *Academic Therapy*, Spring 1975, 10(3), 355-359.

Exceptional Child Education, *Handicapped Children, *Motor Development, *Perceptual Motor Coordination, Teachers, *Testing

Bernbaum, Marcia *et al.* Relationships among perceptual-motor tasks: Tracing and copying. *Journal of Educational Psychology*, October 1974, 66(5), 731-735.

Generalization, *Lateral Dominance, *Neurological Organization, *Perceptual Motor Coordination, *Sequential Approach, Task Analysis, *Task Performance, Transfer of Training

Binkley, M. Edward and Maggart, William. Reading retardation and Bender Gestalt performance. *Psychology in the Schools,* October 1974, 11(4), 400-402.

Adjustment Problems, *Bender Visual Motor Gestalt Test, *Diagnostic Tests, Elementary Education, *Learning Disabilities, *Perceptual Motor Coordination, *Performance Factors, *Reading Difficulty, Research Projects, Test Interpretation

Broadhead, Geoffrey D. Social class correlates of gross motor performance in special education. *Rehabilitation Literature,* November 1974, 35(11), 331-335.

Childhood, *Correlation, *Educable Mentally Handicapped, Exceptional Child Research, *Minimally Brain Injured, *Perceptual Motor Coordination, Psychomotor Skills, *Socioeconomic Influences, Special Education, Statistical Data

Broadhead, Geoffrey D. Beam walking in special education. *Rehabilitation Literature,* May 1974, 35(5), 145-147, 151.

Childhood, *Educable Mentally Handicapped, *Exceptional Child Research, Learning Disabilities, Mentally Handicapped, *Minimally Brain Injured, *Perceptual Motor Coordination, Testing, *Test Reliability

Chissom, Brad S. *et al.* Canonical validity of perceptual-motor skills for predicting an academic criterion. *Educational and Psychological Measurement,* Winter 1972, 32(4), 1095-1098.

*Academic Performance, Kindergarten Children, Measurement Instructions, *Perceptual Motor Coordination, *Predictive Measurement, Predictor Variables, *Relationship, Tables (Data), *Test Validity

Condon, William S. Multiple response to sound in dysfunctional children. *Journal of Autism and Childhood Schizophrenia,* March 1975, 5(1), 37-56.

*Auditory Perception, Aural Stimuli, *Autism, Exceptional Child Research, Learning Disabilities, Linguistics, *Perceptual Motor Coordination, *Reactive Behavior, *Reading Difficulty

DeMyer, Marian K. *et al.* A comparison of adaptive, verbal, and motor profiles of psychotic and non-psychotic subnormal children. *Journal of Autism and Childhood Schizophrenia,* October-December 1972, 2(4), 359-377.

Autism, Early Childhood, Emotionally Disturbed, *Exceptional Child Research, *Intellectual Development, *Perceptual Motor Coordination, *Psychotic Children, Schizophrenia, Tests, *Verbal Ability

Friedrich, Douglas and Fuller, Gerald B. Visual-motor performance: Delineation of the "perceptual deficit" hypothesis. *Journal of Clinical Psychology,* April 1973, 29(2), 207-209.

Data Analysis, Information Processing, *Memory, *Perceptual Motor Coordination, Performance Factors, *Retarded Children, *Sensory Integration, *Task Performance

Harris, P. L. *et al.* Tracking by young infants. *British Journal of Psychology,* August 1974, 65(3), 345-349.

*Infants, *Perceptual Motor Coordination, *Psychological Studies, *Research Methodology, Tables (Data)

Issac, Blanche K. Perceptual-motor development of first graders as related to class, race, intelligence, visual discrimination, and motivation. *Journal of School Psychology,* March 1973, 11(1), 47-56.

*Disadvantaged Youth, *Learning, *Perceptual Development, Perceptually Handicapped, *Perceptual Motor Coordination, *Psychological Services, Racial Differences, School Psychologists

Lasch, Lynn D. *et al.* A new group administration procedure for the Minnesota Percepto-Diagnostic Test. *Psychology in the Schools,* October 1974, 11(4), 403-407.

*Diagnostic Tests, *Group Tests, *Minnesota Percepto Diagnostic Test, Norms, *Perceptual Motor Coordination, Reasearch Projects, *Testing, *Test Interpretation

Liemohn, Wendell. Rhythm and motor ability in developmentally disabled children. March 1975, 11pp. ED 107 637.

Developmental Tasks, *Educable Mentally Handicapped, *Emotionally Disturbed Children, Motor Development, *Perceptual Motor Coordination, *Physically Handicapped, *Psychomotor Skills

Lietz, Enno S. Perceptual-motor abilities of disadvantaged and advantaged kindergarten children. *Perceptual and Motor Skills,* Decem[illegible] 1972, 35(3), 887-890.

*Culturally Advantaged, *Educationally Disadvantaged, *Educational Research, Females, *Kindergarten Children, Males, Negro Youth, *Perceptual Motor Coordination

Llorens, Lela A. Activity analysis for cognitive-perceptual-motor dysfunction. *American Journal of Occupational Therapy,* November-December 1973, 27(8), 453-456.

*Cognitive Ability, *Cognitive Perceptual Motor Dysfunction, *Occupational Therapy, *Perceptual Motor Coordination

Marshall, Philip H. Recognition and recall in short-term motor memory. *Journal of Experimental Psychology,* September 1972, 9(1), 147-153.

*Memory, *Perceptual Motor Coordination, *Psychomotor Skills, *Recall (Psychological), *Recognition, Reinforcement, Retention, Stimulus Behavior, Tables (Data), Theories

Martin, John E. and Sachs, David A. The effect of visual feedback on the fine motor behavior of a deaf cerebral palsied child. *Journal of Nervous and Mental Disease,* July 1973, 157(1), 59-62.

*Cerebral Palsy, Childhood, Deaf, *Exceptional Child Research, *Feedback, Multiply Handicapped, *Operant Conditioning, *Perceptual Motor Coordination, Physically Handicapped, Visual Learning

Proger, Barton B. Test review No. 16: Test of Perceptual Organization. *Journal of Special Education,* Spring 1974, 8(1), 107-110.

*Abstract Reasoning, Adolescents, Emotionally Disturbed, Evaluation, *Exceptional Child Research, *Learning Disabilities, *Perceptual Motor Coordination, *Screening Tests, Testing, Test Interpretation, Test Reliability, Test Validity

Rarick, G. Lawrence and Dobbins, D. Alan. Basic components in the motor performance of children six to nine years of age. *Medicine and Science in Sports,* Summer 1975, 7(2), 105-110.

Body Weight, *Children, *Elementary School Students, Exercise (Physiology), Factor Analysis, Human Body, *Muscular Strength, *Perceptual Motor Coordination, Physical Development, *Psychomotor Skills

Rider, Barbara A. Perceptual-motor dysfunction in emotionally disturbed children. *American Journal of Occupational Therapy,* September 1973, 27(6), 316-320.

*Emotionally Disturbed Children, *Perceptual Motor Coordination, *Perceptual Motor Learning, Physical Handicaps, Test Results

Rosentswieg, Joel and Herndon, Daisy. Perceptual-motor ability and intellectual ability of kindergarten age children. *Perceptual and Motor Skills*, October 1973, 37(2), 583-586.

Cognitive Processes, Early Childhood Education, *Educational Research, *Intelligence, *Kindergarten Children, *Perceptual Motor Coordination

Rothstein, Anne L. An information processing approach to skill acquisition: Perception and timing. March 1975, 43 pp. ED 111 765.

Athletics, Eye Hand Coordination, Object Manipulation, Perceptual Motor Coordination, Physical Activities, *Physical Education, *Psychomotor Skills, *Skill Analysis, *Skill Development

Schnall, Melvyn *et al.* A sensory-motor context affecting performance in a conservation task: A closer analogue of reversibility than empirical return. *Child Development*, September 1972, 43(3), 1012-1023.

Comparative Analysis, *Conservation (Concept), Kindergarten Children, *Perceptual Motor Coordination, *Performance Factors, Research Methodology, *Shift Studies, Tables (Data), Task Performance

Schoenfeldt, Barbara Barliant. The perceptual-motor survey as a reading clinic diagnostic tool. 1973, 196 pp. Available from University Microfilms, P.O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 74-31,960 MFilms, $4.00; Xerography, $10.00).

Doctoral Theses, Elementary School Students, Motor Development, *Perceptual Motor Coordination, Reading, *Reading Ability, Reading Achievement, Reading Clinics, *Reading Diagnosis, *Reading Research, Reading Skills, *Retarded Readers

Shapiro, A. H. Verbalization during the preparatory interval of a reaction-time task and development of motor control. *Child Development*, March 1973, 44(1), 137-142.

Age Differences, *Articulation (Speech), Data Analysis, *Early Childhood, Motor Development, *Motor Reactions, *Perceptual Motor Coordination, *Reaction Time, Sex Differences

Ward, Susan Etter. Order effects on selected perceptual-motor tests. *American Journal of Occupational Therapy*, September 1973, 27(6), 321-325.

*Perceptual Motor Coordination, *Perceptual Motor Learning, Physical Examination, Testing

American Alliance for Health, Physical Education, and Recreation, Washington, D.C. *Physical education '73.* 1973, 13 pp. Available from AAPHER Publication-Sales, 1201 - 16th St., N.W., Washington, D.C. 20036 (Stock No. 245-25468, $0.50).

> *Child Development, Elementary Education, *Elementary School Students, *Motion, Motor Development, *Perceptual Motor Learning, *Physical Education, Physical Education Facilities, Play, Skill Development

American Association for Health, Physical Education, and Recreation, Washington, D.C. *Annotated bibliography of perceptual-motor development.* 1973, 122 pp. Available from AAPHER Publication-Sales, 1201 - 16th St., N.W., Washington, D.C. 20036 (Stock No. 245-25412, $3.25).

> *Annotated Bibliographies, Auditory Perception, *Instructional Materials, *Perceptual Development, *Perceptual Motor Coordination, *Perceptual Motor Learning, Visual Perception

Carlson, Robert. What moves me to act? I. August 1971, 8 pp. ED 104 876.

> Academic Achievement, Perceptual Development, *Perceptual Motor Coordination, *Perceptual Motor Learning, Physical Activities, *Physical Education

Cherry, Clare. What moves me to act? II. August 1971, 6 pp. ED 104 877.

> *Academic Achievement, Motion, *Perceputal Motor Learning, Preschool Children, Reading Achievement

Davis, Robert G. The effect of perceptually oriented physical education on perceptual motor ability and academic ability of kindergarten and first grade children. 1974, 10 pp. ED 096 280.

> *Academic Ability, Children, Educational Programs, *Grade 1, *Kindergarten, *Perceptual Motor Coordination, *Perceptual Motor Learning, Physical Education

Dietrich, Coralee. An experimental analysis of perceptual motor approaches to learning problems. *Education,* April-May, 1973, 93(4), 381-392.

> Elementary School Students, Individualized Instruction, *Perceptual Motor Learning, *Predictor Variables, *Reading Difficulty, *Remedial Reading, Student Adjustment, Tables (Data), *Training Techniques

Glazer, Hilda Ruth and Cox, David L. Training of perceptual motor skills in minimally brain damaged children. 1973, 25 pp. ED 077 155.

*Childhood, Electromechanical Aids, *Exceptional Child Research, Learning Disabilities, Learning Processes, *Minimally Brain Injured, *Perceptual Motor Learning, Research Methodology, *Training Techniques

Gottfried, Allen W. and Brody, Nathan. Interrelationships between and correlates of psychometric and Piagetian scales of sensorimotor intelligence. *Developmental Psychology*, May 1975, 11(3), 379-387.

*Infancy, Motor Development, *Perceptual Motor Learning, *Physical Development, *Psychometrics

Hammill, Donald *et al.* Visual-motor processes: Can we train them? *Reading Teacher*, February 1974, 27(5), 469-478.

*Early Childhood Education, Learning Processes, *Perceptual Development, Perceptual Motor Learning, *Readiness, *Reading Readiness, Visual Discrimination, Visual Perception

Hedges, William D. and Hardin, Veralee B. Effects of a perceptual-motor program on achievement of first graders. *Educational Leadership*, December 1972, 30(3), 249-253.

*Achievement Rating, Data Anaylsis, *Grade 1, *Learning Readiness, *Perceptual Motor Learning, Program Evaluation, Tables (Data)

Humphrey, James H. The use of motor activity in the development of science concepts with mentally handicapped children. April 1973, 10 pp. ED 093 570.

*Concept Formation, Curriculum Design, Educable Mentally Handicapped, Instruction, *Mentally Handicapped, *Perceptual Motor Learning, *Science Activities, Science Education

Kaufman, Maurice. Perceptual and language readiness program: Critical reviews. Reading Aids Series. 1973, 61 pp. ED 080 976.

Beginning Reading, *Instructional Materials, *Language Development, *Learning Readiness, *Perceptual Motor Learning, Program Descriptions, *Reading, Reading Development, Reading Skills, Visual Perception

Klanderman, John Winston. A study of the effects of a kindergarten perceptual-motor development program. 1971, 160 pp. ED 071 017.

*Developmental Programs, Developmental Tasks, *Kindergarten, Motor Development, *Perceptual Motor Coordination, *Perceptual Motor Learning, *Reading Readiness

Kopp, Claire B. *et al.* Longitudinal study of sensorimotor development. *Developmental Psychology. September 1974, 10(5), 687-695.*

Behavior Rating Scales, *Child Development, Comparative Analysis, *Infants, *Longitudinal Studies, *Perceptual Motor Learning, Performance Factors, *Performance Tests, Tables (Data)

Laabs, Gerald J. Retention characteristics of different reproduction cues in motor short-term memory. *Journal of Experimental Psychology,* September 1973, 100(1), 168-177.

Evaluation Techniques, *Experimental Psychology, Memory, Mnemonics, *Perceptual Motor Learning, Retention, *Retention Studies

Mann, Marlis. Identify and assist the development of high risk preschool children. 1972, 23 pp. ED 073 833.

Auditory Perception, *Curriculum Guides, Early Childhood Education, Handicapped Children, *Intervention, *Language Development, Learning Disabilities, Motor Development, *Perceptual Motor Learning, Preschool Children, *Preschool Education, Speeches, Visual Perception

Nelson, Monte and Pyfer, Jean L. Contemporary theories of perceptual-motor development. 1973, 26 pp. ED 100 489.

Bibliographies, Child Development, Cognitive Processes, Developmental Psychology, *Early Childhood, *Educational Theories, Environmental Influences, Growth Patterns, Intervention, Learning Processes, *Literature Reviews, Models, Neurological Organization, *Perceptual Motor Learning, Physical Development, *Skill Development

Pyfer, Jean L. Perceptual-motor dysfunction. April 1973, 8 pp. ED 090 746.

*Exceptional Child Research, Hyperactivity, Kinesthetic Perception, Learning Disabilities, *Perceptually Handicapped, *Perceptual Motor Learning, Tactual Perception, *Theories, *Therapy, Training Techniques

Rosenkranz, Peggy A. Perceptual motor development: Are you doing your part? *Music Educators Journal.* December 1974, 61(4), 57-59.

*Child Development, *Learning Disabilities, Music Activities, *Music Education, Musicians, *Music Teachers, *Perceptual Motor Learning, Teaching Methods

Rosner, Jerome. Perceptual skills curriculum: Visual-motor skills. Program I. 1972. 327 pp. ED 083 553.

Associate Learning, Behavioral Objectives, Cognitive Processes, *Curriculum Guides, *Individualized Curriculum, *Individualized Instruction, *Learning Modalities, Learning Processes, Paraprofessional School Personnel, *Perceptual Motor Learning, Primary Education, *Visual Learning.

Saunders, Minta M. The ABC's of learning in infancy. 1971, 22 pp. ED 067 146.

*Activity Learning, Child Development, Child Rearing, Cognitive Development, *Discovery Learning, Early Experience, Guides, *Infancy, *Learning Processes, *Perceptual Motor Learning, Play, Social Development

Sullivan, Dorothy D. and Humphrey, James H. *Teaching reading through motor learning.* 1973, 149 pp. Available from Charles C. Thomas, 301-327 East Lawrence Avenue, Springfield, Illinois 62717 ($7.95, cloth).

Creative Expression, *Motor Development, Motor Reactions, *Perceptual Motor Learning, Reading, Reading Diagnosis, *Reading Instruction, Reading Processes, Reading Programs, *Reading Skills, *Skill Development

Thomas, Jerry R. *et al.* Effects of perceptual-motor training on preschool children: A multivariate approach. April 1974, 16 pp. ED 096 286.

*Academic Ability, Educational Programs, *Kindergarten Children, *Motor Development, *Perceptual Development, *Perceptual Motor Learning, *Self Concept

Thomas, Jerry R. and Chissom, Brad S. Prediction of first grade academic performance from kindergarten perceptual-motor data. *Research Quarterly,* May 1974, 45(2), 148-153.

Academic Achievement, *Motor Development, *Perception Tests, *Perceptual Development, *Perceptual Motor Learning, Prediction, Primary Education, *Readiness

Union Township Board of Education, New Jersey. *Learning to see is seeing to learn: 2. A second year report of Title 3 Project SEE.* 1973, 43 pp. Available from Project SEE, Board of Education, 2369 Morris Avenue, Union, New Jersey 07083 (no price indicated).

*Early Childhood Education, Early Experience, Perception Tests, *Perceptual Motor Learning, *Program Evaluation, *Teaching Methods, *Visual Perception

Bannatyne, Alex (Ed.) Programs, materials and techniques. *Journal of Learning Disabilities,* May 1973, 6(5), 278-285.

*Diagnostic Teaching, Diagnostic Tests, Educational Methods, *Exceptional Child Education, *Instructional Materials, Large Type Materials, Learning Difficulties, *Learning Disabilities, *Perceptual Motor Learning, Psychomotor Skills

Beers, Carol *et al.* Perceptual motor development: A performance based early childhood-special education teacher preparation program. Monograph II. 1974, 171 pp. ED 108 763.

Behavioral Objectives, *Early Childhood Education, Measurement Techniques, Motor Development, Perceptual Development, *Perceptual Motor Learning, *Performance Based Teacher Education, Physical Development, *Physically Handicapped, Physiology, Special Education, *Teacher Education Curriculum, Teaching Techniques

Belmont, Ira *et al.* Comparison of perceptual training and remedial instruction for poor beginning readers. *Journal of Learning Disabilities,* April 1973, 6(4), 230-235.

Basic Reading, Early Childhood, *Exceptional Child Research, Learning Disabilities, *Perceptual Motor Learning, *Reading Difficulty, *Remedial Reading

Chase, Jr., William Neil. A comparison of the effects of a program of selected perceptual development activities and a supplementary reading program on reading achievement. 1973, 103 pp. Available from University Microfilms, P.O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 73-22, 895 MFilm, $4.00; Xerography, $10,00).

Doctoral Theses, Grade 2, Individualized Reading, *Perceptual Development, *Perceptual Motor Learning, Primary Education, Reading Achievement, *Reading Programs, *Reading Research

Hoopes, Amy T. SPLASH down to reading. 1973, 13 pp. ED 077 171.

Childhood, *Dyslexia, *Exceptional Child Education, Lateral Dominance, *Learning Disabilities, Neurology, Perceptually Handicapped, *Perceptual Motor Coordination, Physical Education, *Swimming

Klein Independent School District, Spring, Texas. Resource services: Preliminary curriculum, guide for reading, mathematics, spelling, writing, and perceptual development. 1974, 222 pp. ED 107 025.

Class Activities, Curriculum Guides, Elementary Education, Exceptional Child Education, *Handwriting, Instructional Materials, *Learning Disabilities, *Mathematics, *Perceptual Development, *Reading Skills, Spelling

Kokaska, Sharen Metz. Classroom movement training for the mentally retarded, *Education and Training of the Mentally Retarded,* April 1973, 8(2), 10-14.

Creative Expression, *Exceptional Child Education, Guidelines, Instructional Materials, *Mentally Handicapped, Motor Development, *Perceptual Motor Learning, *Physical Education, Program Descriptions, *Teaching Methods

Krause, Dorothy. A motor approach to learning. *Instructor,* October 1972, 82(2), 170-171, 173.

Eye Movements, *Learning Activities, Learning Disabilities, *Motor Development, *Perceptual Development, *Perceptual Motor Coordination, Physical Activities, Skill Development, *Visual Learning

Krause, Dorothy and Olson, Borghild. *MP MP: A program of motor-perceptual movement patterns.* 1972, 116 pp. Available from Mrs. Borghild L. Olson, 2609 Hackberry, LaCrosse, Wisconsin 54601 (Spiral-bound or loose cards, $3.50).

Body Image, Body Language, *Early Childhood Education, Exercise (Physiology), Eye Movements, *Motor Development, *Perceptual Motor Coordination, *Physical Activities, *Psychomotor Skills

Krause, Dorothy and Olson, Borghild. *Motor-perceptual movement patterns: A program for establishing neurological organization.* 1968, 40 pp. Available from Mrs. Borghild L. Olson, 2609 Hackberry, LaCrosse, Wisconsin 54601 (Paper, $1.50).

Articulation (Speech), *Body Image, *Early Childhood Education, Exercise (Physiology), Eye Movements, Neurological Organization, *Perceptual Motor Coordination, Performance Tests, *Physical Activities, *Psychomotor Skills

McKibbin, Elsie H. The effect of additional tactile stimulation in a perceptual-motor treatment program for school children. *American Journal of Occupational Therapy,* May-June 1973, 27(4), 191-197.

Analysis of Covariance, Elementary School Students, *Eye Hand Coordination, Kindergarten Children, *Learning Difficulties, Motor Development, *Perceptual Motor Coordination, *Sensory Integration, Standardized Tests, *Tactual Perception

Myers, Marvin L. *et al.* Master planning guide for instructional objectives. Colorado State plan for the developmentally disabled. May 1974, 80 pp. ED 101 521.

Adjustment (to Environment), *Behavioral Objectives, *Communication Skills, Exceptional Child Education, Handicapped Children, *Leisure Time, *Motor Development, *Normalization (Handicapped), *Perceptual Motor Coordination, *Prevocational Education, *Reading Skills, *Self Care Skills

Och, Mary F. The trampoline and perception. *Academic Therapy*, Summer 1973, 8(4), 395-400.

*Exceptional Child Education, Learning Disabilities, Perceptual Development, *Perceptually Handicapped, *Perceptual Motor Coordination, Perceptual Motor Learning, *Physical Activities

Slater, Barbara R. Achievement in grade 3 by children who participated in perceptual training during kindergarten. *Perceptual and Motor Skills*, June 1973, 36(3), 763-766.

*Discrimination Learning, Educational Research, Elementary Education, *Learning Readiness, *Perceptual Motor Learning, Prereading Experience, Reading Achievement

Thelen, David C. A program for training children in coordination and perceptual development. *Education and Training of the Mentally Retarded*, February 1973, 8(1), 29-35.

*Exceptional Child Education, *Handicapped Children, *Perceptual Motor Coordination, *Physical Activities, Primary Grades, *Program Descriptions, Teaching Methods

Watson, Marion (Comp.) *et al.* Activities for the early development of perceptual skills. 1972, 110 pp. ED 072 853.

Auditory Discrimination, Auditory Perception, *Class Activities, Cognitive Development, *Curriculum Guides, Kindergarten, Language Development, Listening Comprehension, Memory, Motor Development, *Perceptual Development, Perceptual Motor Coordination, Preschool Education, Primary Grades, Verbal Development, Visual Perception

Wayne-Carroll Public Schools, Wayne, Nebraska. Project Success for the SLD child, motor-perception activities. 1974, 203 pp. ED 089 482.

Body Image, *Curriculum Guides, *Exceptional Child Education, Kindergarten, *Learning Disabilities, Lesson Plans, Motor Development, Muscular Strength, *Perceptual Motor Learning, *Physical Activities, Primary Grades, Spatial Relationship, Time Factors (Learning)

Weimer, Wayne Robert. A perceptuomotor and oral language program for children identified as potential failures. 1971, 201 pp. Available from University Microfilms, P. O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 72-4000 MFilm, $4.00; Xerography, $10.00).

Affective Objectives, Cognitive Objectives, *Grade 1, Learning Disabilities Low Ability Students, *Oral Communication, *Perceptual Motor Coordination, *Reading Instruction, Reading Programs, Spelling, *Underachievers, Writing

Visual Perception Skills

Bongers, Kay H. and Doudlah, Anna M. Techniques for initiating visuomotor behavior in visually impaired retarded children. *Education of the Visually Handicapped*, October 1972, 4(3), 80-82.

*Exceptional Child Research, Institutionalized (Persons), Lighting, *Mentally Handicapped, Multiply Handicapped, *Perceptual Motor Learning, *Teaching Methods, *Visually Handicapped, Visual Perception

Braine, Lila Ghent. Perceiving and copying the orientation of geometric shapes. *Journal of Research and Development in Education*, Spring 1973, 6(3), 44-55.

*Children, Cross Cultural Studies, Geometric Concepts, Handicapped Students, *Orientation, *Perceptual Development, *Response Mode, Tables (Data), *Visual Perception, Visual Stimuli

Braithwaite, R. J. The Frostig Test and Training Programme — How valuable? *Slow Learning Child*, July 1972, 19(2), 86-91.

*Exceptional Child Research, Frostig Developmental Test of Visual Perception, Frostig Visual Perception Training Program, *Learning Disabilities, *Perceptual Development, Predictive Measurement, *Reading Difficulty, Research Reviews (Publications), Test Validity, *Visual Perception

Church, Marilyn. Does visual perception training help beginning readers? *Reading Teacher*, January 1974, 27(4), 361-364.

*Beginning Reading, Grade 1, *Perceptual Development, Reading Achievement, Reading Development, *Reading Readiness, Reading Skills, *Visual Perception

Drowatzky, John N. and Lehman, Jean. Visual perception differences in cerebral palsied, mentally retarded and normal children. (no date indicated), 7 pp. ED 098 777.

Adolescents, *Cerebral Palsy, Childhood, Exceptional Child Research, *Mentally Handicapped, *Perceptually Handicapped, Physically Handicapped, *Visual Perception

DuBois, Nelson F. Selected correlations between reading achievement and various visual abilities of children in grades 2 and 4. *Perceptual and Motor Skills,* August 1973, 37(1), 45-46.

Educational Research, Elementary Education, *Perceptual Motor Learning, *Reading Achievement, *Sensory Integration, *Visual Learning

Fitch, James L. *et al.* A program to improve visual perception skills of preschool deaf children. *American Annals of the Deaf,* June 1973, 118(3), 429-432.

Aurally Handicapped, *Deaf, *Exceptional Child Research, Instructional Materials, *Perceptual Development, Preschool Children, *Program Descriptions, *Visual Perception

Goodfriend, Ronnie Stephanie. *Power in perception for the young child: A comprehensive program for the development of pre-reading visual perceptual skills.* 1972, 173 pp. Available from Teachers College Press, Teachers College, Columbia University, 525 West 120th Street, New York, New York 10027 (Paperback, $3.50; Suppl., $5.00).

Books, Child Development, Cognitive Development, Concept Formation, *Curriculum Guides, *Early Childhood Education, Instructional Programs, Language Development, *Perceptual Development, Preschool Learning, *Visual Discrimination, *Visual Perception

Hartman, R. E. Ball games for visually handicapped children. *New Outlook for the Blind,* October 1974, 68(8), 348-355.

Exceptional Child Education, *Games, *Guidelines, *Partially Sighted, *Perceptual Motor Coordination, *Physical Education, Visually Handicapped

Haskell, Simon H. Visuoperceptual, visuomotor, and scholastic skills of alternating and uniocular squinting children. *Journal of Special Education,* Spring 1972, 6(1), 3-8.

*Academic Achievement, Childhood, *Exceptional Child Research, *Perceptual Motor Coordination, Testing, Vision, *Visually Handicapped, *Visual Perception

Jones, Bill. Facilitation of visual perception through voluntary movements in elementary school children. *Journal of Experimental Child Psychology,* December 1972, 14(3), 408-415.

Data Analysis, Discrimination Learning, *Elementary School Students, *Learning Modalities, *Perceptual Motor Coordination, *Sensory Integration, *Visual Perception

Kugelmass, Sol *et al.* Perceptual exploration in Israeli Jewish and Bedouin children. *Journal of Cross-Cultural Psychology,* December, 1972, 3(4), 345-352.

Bedouins, *Cross Cultural Studies, *Cultural Differences, Jews, *Perceptual Motor Coordination, Reading Habits, *Reading Processes, Teaching Styles, *Visual Perception

Parker, J. L. *et al.* Simple device for enhancing feedback in the acquisition of visual motor skills of slow learning children. *Slow Learning Child,* November 1973, 20(3), 164-169.

*Educable Mentally Handicapped, *Electromechanical Aids, Exceptional Child Education, *Feedback, Handwriting, Learning Disabilities, Mentally Handicapped, *Perceptually Handicapped, *Perceptual Motor Learning, Performance Factors

Plack, Jeralyn J. and Shick, Jacqueline. Physical education: Is there evidence to support the use of the Frostig Developmental Training Program in physical education? *Journal of Physical Education and Recreation,* May 1975, 46(5), 58.

*Academic Achievement, *Children, Educational Research, *Frostig Developmental Test of Visual Perception, *Perception Tests, *Perceptual Motor Learning, Physical Education, Visually Handicapped

Randhawa, Bikkar S. Perceptual information processing of different visual stimuli by eight-year-old children. *Journal of Experimental Child Psychology,* August 1973, 16(1), 55-62.

*Elementary School Students, *Information Processing, *Perceptual Development, Pictorial Stimuli, Recall (Psychological), *Recognition, Verbal Stimuli, *Visual Perception, Visual Stimuli

Seaton, Harold Wayne. The effects of visual perception training on first grade reading achievement. 1972, 146 pp. Available from University Microfilms, P. O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 73-21, 484 MFilm, $4.00; Xerography, $10.00).

Grade 1, *Perceptually Handicapped, Reading, *Reading Achievement, Reading Development, Reading Improvement, *Reading Research, *Sensory Training, *Visual Perception

Shinder, Lionel. The effects of the Frostig Developmental Program of Visual Perception on reading readiness and reading achievement. 1971, 124 pp. Available from University Microfilms, P. O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 72-31,815 MFilm, $4.00; Xerography, $10.00).

Beginning Reading, *Grade 1, *Kindergarten, *Perceptual Motor Learning, Reading Achievement, Reading Readiness, *Reading Research

Shurrager, Phil S. *et al.* Perceptual-motor testing of mentally retarded persons. *American Journal of Mental Deficiency,* January 1975, 79(4), 462-463.

Etiology, Exceptional Child Research, *Learning Characteristics, *Mentally Handicapped, *Perceptual Motor Learning, *Student Characteristics

Weintraub, Samuel (Comp.) *Vision-visual discrimination. Reading research profiles.* 1973, 80 pp. ED 073 437. Also available from International Reading Association, 6 Tyre Avenue, Newark, Delaware 19711 ($1.50, nonmember; $1.00, member).

*Annotated Bibliographies, Eye Movement, Perceptual Development, *Perceptual Motor Learning, *Reading, *Vision, Visual Acuity, *Visual Perception

Yonas, Albert and Hagen, Margaret. Effects of static and motion parallax depth information on perception of size in children and adults. *Journal of Experimental Child Psychology,* April 1973, 15(2), 254-265.

Adults, Age Differences, Children, Data Analysis, *Perceptual Development, *Preschool Children, *Stereopsis, *Visual Perception

Books

Cratty, Bryant Jackson. *Motor activity and the education of retardates.* Philadelphia, Pennsylvania: Lea and Febiger, 1974. 303 pp.

Cratty, Bryant Jackson. *Psycho-motor behavior in education and sport: Selected papers.* Springfield, Illinois: Charles C. Thomas, 1974. 193 pp.

Cratty, Bryant Jackson. *Intelligence in action: Physical activities for enhancing intellectual abilities.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973. 159 pp.

Gerhardt, Lydia A. *Moving and knowing: The young child orients himself in space.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973. 202 pp.

Wedell, K. *Learning and perceptuo-motor disabilities in children.* New York, New York: John Wiley and Sons, Inc., 1973. 138 pp.

LONG-TERM RESEARCH

Note: The reports in this section concern research programs that are continuous.

36-AA-1 LONGITUDINAL STUDY OF CHILD GROWTH AND DEVELOPMENT

Investigator(s): Frank Falkner, M.D., F.R.C.P., Director; Alexander F. Roche, M.D., Ph.D., Chief, Section on Physical Growth and Genetics; and Robert McCall, Ph.D., Chief, Section on Perceptual/Cognitive Development, 800 Livermore Street, Yellow Springs, Ohio 45387.

Purpose: To conduct a multidisciplinary study of children whose health, growth, psychological development, and environment have been studied since birth, with prenatal and genetic information; and to determine normative patterns of growth and development in human subjects.

Subjects: Over 800 subjects: from present infants to adults with their children in study. The subjects are healthy, from rural and urban areas, and from upper-lower to middle class backgrounds.

Methods: A multidisciplinary longitudinal study is being conducted with regular visits and use of appropriate analyses and computer methodology.

Duration: 1930-continuing.

Cooperating group(s): Public Health Service, U.S. Department of Health, Education, and Welfare; National Science Foundation; Samuel S. Fels Fund; U. S. Air Force.

Publications: Information is available from the investigator on approximately 1,022 publications that have been completed to date.

36-AA-2 DEVELOPMENT OF BUDGETS FOR CLOTHING AND HOUSEHOLD TEXTILES

Investigator(s): Virginia Britton, Ph.D., Home Economist, Consumer and Food Economics Institute, Agricultural Research Service, U. S. Department of Agriculture, Federal Center Building No. 1, Hyattsville, Maryland 20782.

Purpose: To develop and update current household clothing budgets taking into account known physiological and sociopsychological needs, clothing habits, income and other resources of various population groups, and the prices and availability of clothing items.

Subjects: 12,000 children in 6,000 families with husband and wife and one to five children, but with no other persons living in the home.

Methods: Data were gathered from the 1960-61 Survey of Consumer expenditures by the Bureau of Labor Statistics and the U.S. Department of Agriculture. Budgets for children were computed using regression methods for three economic levels of the USDA food plans — economy, low cost, and moderate cost. Separate clothing budgets were computed for boys and girls categorized by age, region, and urbanization. Budgets will be published as total expenditures for children's clothing (updated to current price levels) and in garment equivalent units.

Findings: Budget costs for boys tended to equal comparable budgets for girls at the economy level. However, at higher budget levels, boys' costs were substantially less than

girls' budgets. This was especially true for older children. Cost differences between clothing budget levels were substantially greater than between food plans, reflecting the greater elasticity of clothing expenditures. The majority of farm budgets and rural nonfarm budgets was about equal to the comparable urban budgets.
Duration: 1962-continuing.
Publications: Britten, V. Clothing budgets for children from the USDA: Annual costs at three levels in four regions. *Home Economics Research Journal,* March 1973, 1(3), 173-184. (Reprints are available from Sales Office, American Home Economics Association, 2010 Massachusetts Avenue, N.W., Washington, D. C. 20036. Price, $1.00.)

36-AA-3 CHILD HEALTH AND DEVELOPMENT STUDIES

Investigator(s): Jacob Yerushalmy, Ph.D., Professor of Biostatistics, School of Public Health, University of California at Berkeley, Berkeley, California 94720; Stephen Thomas, M.D., Director, Department of Obstetrics and Gynecology; and Edgar Schoen, M.D., Director, Department of Pediatrics, Kaiser Foundation Hospital, Oakland, California 94611.
Purpose: To investigate the relationship of parents' biologic, genetic, and environmental influences (including events during pregnancy, labor, and delivery) to the normal and abnormal development of offspring.
Subjects: Members of the Kaiser Foundation Health Plan (a prepaid medical care program) who reside in the San Francisco-East Bay area.
Methods: Expected byproducts of the investigation are the relationships of factors studied to (1) wasted pregnancies in the form of early fetal death, perinatal mortality, infant and child mortality; and (2) estimates of the incidence of different types of abnormalities. The study is a prospective, longitudinal type involving both mother and child. Gravidas in the Department of Obstetrics and children in the Pediatric Department are observed, interviewed, and given laboratory examinations. Physicians' observations are systematized uniformly. Special efforts are made to obtain information on members of the study who do not return to the plan for medical care. Detailed growth curves for children, ages birth to 6, and estimates of illnesses and injuries in infancy and the preschool child will be derived on a longitudinal basis.
Duration: July 1959-continuing.
Cooperating group(s): Permanente Medical Group; Kaiser Foundation Research Institute.
Publications: (1) *Journal of Pediatrics,* August 1967, 71(2), 164-172. (2) *Pediatrics,* 1967, 39, 940-941. (3) *American Journal of Obstetrics and Gynecology,* February 1964, 88(4), 505-518.

36-AA-4 THE BERKELEY, CALIFORNIA GROWTH STUDY

Investigator(s): Dorothy H. Eichorn, Ph.D., Research Psychologist, Institute of Human Development, University of California at Berkeley, Berkeley, California 94720.
Purpose: To study the mental and physical growth of normally healthy persons from birth to the present.
Subjects: 60 full-term, healthy newborns, born in Berkeley hospitals from 1928 to 1929 of white, English-speaking parents; and 140 offspring of these subjects, ages birth to 20, seen irregularly.

Methods: The same data, appropriate for age, were collected for the subjects and their offspring. Beginning in the first week of life, tests of mental and motor development, pediatric examinations, and interviews were conducted at frequent intervals during growth. At all visits, inquiries were made concerning current health and recent illnesses. Anthropometrics, body photographs, and skeletal X-rays were taken at most ages. Socioeconomic data were collected. Studies of the physical aspects of growth include analyses that compare health histories with physical growth and with skeletal maturation. Emotional and other personality variables are being studied for consistency, and in various interrelations with maternal behavior in infancy, birth histories, socioeconomic status, and intellectual and physical growth.
Duration: 1928-continuing.
Publications: *American Psychologist,* 1968, 23(1), 1-17; *Monograph of the Society for Research in Child Development,* 1963, 28; Bayer, Leona and Bayley, Nancy. *Growth diagnosis: Selected methods for interpreting and predicting physical development from one year to maturity.* Chicago: University of Chicago Press, 1959.

36-AA-5 GROWTH OF PSYCHOPHYSIOLOGICAL PATTERNS IN INFANCY

Investigator(s): Wagner H. Bridger, M.D., Associate Professor of Psychiatry; and Beverly Birns, Ph.D., Assistant Professor of Psychology, Albert Einstein College of Medicine, Yeshiva University, Bronx, New York 10461.
Purpose: To investigate the origins and course of development of individual differences in neonates.
Subjects: Normal, healthy, full-term babies, 2 to 5 days old, born at Bronx Municipal Hospital Center.
Methods: A neonatal behavioral profile, which was established in previous studies, will be used. The profile includes behavioral and heart rate ratings on excitation, soothing, feeding, sleep, and nonstimulus periods of observation. Neonates will be followed at ages 2 weeks, and 1, 2, 3, and 4 months to measure the stability of early appearing traits and their relation to later behaviors. Data will be analyzed with respect to stability of early appearing behaviors and the relationship between neonatal behavior and maternal and birth history.
Duration: 1966-continuing.
Cooperating group(s): National Institute of Mental Health, Public Health Service, U.S. Department of Health, Education, and Welfare.
Publications: (1) Grant Newton and Seymour Levine (Eds.), *Early experience and behavior: Psychobiology of development.* Springfield, Illinois: Charles C. Thomas, 1968. (2) *Psychosomatic Medicine,* 1966, 28, 316.

36-AA-6 LONGITUDINAL STUDY OF DENTOFACIAL, SKELETAL, AND PHYSICAL GROWTH, AND DEVELOPMENT OF CHILDREN

Investigator(s): Bhim S. Savara, D.M.D., M.S., Professor, Chairman of Department, Child Study Clinic, School of Dentistry, University of Oregon Health Sciences Center, Portland, Oregon 97201.
Purpose: To study the dentofacial growth and development of children and relate to skeletal age, physical growth and physique; to study variation in morphology and growth patterns in children during growth; and to determine heritable traits.

Subjects: 424 subjects, including 40 pairs of twins, ages 3 to 28. More than 300 children have been observed for over 10 years.

Methods: Cephalograms, hand, wrist, and calf X-rays, intraoral X-rays, study casts, anthropometric measurements, and photographs are taken, and oral examinations are given to each subject. Children are examined every 6 months until age 14 and yearly thereafter.

Duration: 1950-continuing.

Cooperating group(s): School of Dentistry, University of Oregon Health Sciences Center; National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: *Angle Orthodontist,* 1968, 38, 104-120; *American Journal of Orthodontics,* 1969, 55, 133-153; *American Journal of Physical Anthropology,* 1969, 30(2), 315-318; *Bulletin of the Academy of General Dentistry,* June 1969, 27-31; *Journal of Dentistry for Children,* November-December 1969, 1-4; *American Journal of Orthodontics,* 1970, [illegible](6), 561-572; *Journal of Dental Research,* 1970, 49(4), 885; *Advances in Oral Biology,* New York: Academic Press, Inc., 1970, 1-9; *Journal of the American Dental Association,* 1970, 81, 653-661; *Oral Health,* 1971, 61(10), 19-28; *American Journal of Orthodontics,* 1971, 59(5), 488-500; *Symposium on Close-Range Photogrammetry,* Urbana: University of Illinois, 1971, 365-369; *Journal of Indian Orthodontic Society,* 1972, 4, 1-10; *Angle Orthodontist,* 1972, 42, 35-43; *American Journal of Orthodontics,* 1972, 61, 231-245, 245-352, 603-618; *Cleft Palate Journal,* 1972, 9, 119-131; *Angle Orthodontist,* 1973, 43(2), 207-215; *American Journal of Orthodontics,* 1973, 63(6), 610-621, 64(3), 248, 257; *American Journal of Physical Anthropology,* 1973, 39, 49-56; *American Journal of Orthodontics,* 1974, 66(5), 479-486; *Human Biology,* 1974, 46(4), 693-698.

36-AA-7 NEW RADIOGRAPHIC STANDARDS OF REFERENCE FOR SKELETAL DEVELOPMENT OF CHILDREN AND STANDARDS IN PREPARATION

Investigator(s): S. Idell Pyle, Ph.D., Research Associate in Anatomy, School of Medicine, Case Western Reserve University, Cleveland, Ohio 44106; William W. Greulich, Ph.D., Research Biologist, National Institute of Child Health and Human Development, Bethesda, Maryland 20014; and staff of the National Center for Health Statistics involved in the National Health Survey, Public Health Service, U. S. Department of Health, Education, and Welfare, Washington, D. C. 20201.

Purpose: To develop radiographic standards of reference for skeletal development of children to provide a basis for identifying maturity levels of growing bones in the hands, elbows, shoulders, hips, knees, and feet of children and youths according to the shapes of the bone shadows in an X-ray film.

Subjects: Approximately 1,000 healthy individuals in Cleveland and Boston.

Methods: The bone shadows in an X-ray film display a modal rate of growth of each bone by illustrating regularly occurring osseous features which develop in series in the surface of the bone cortex as it calcifies. A reference standard consists of films arranged as a series to show sequential osseous features which are alike in males and females. It is an instrument for measuring the skeletal maturity level of children. Films of the subjects, covering the full span of growth from birth to adulthood, have been used to prepare standards. A standard of reference for joints in the upper extremity is in preparation, with the section on the hand and wrist showing the application of cardinal maturity indicators of individual bones to handwrist bones which are anomalous in the number of their bone growth centers. For published standards, see publication references listed below.

Cooperating group(s): Bolton-Brush Growth Study Center, Case Western Reserve University, Cleveland; Department of Maternal and Child Health, Harvard University School of Public Health, Boston; National Center for Health Statistics, Rockville, Maryland; Departments of Pediatrics and Endocrinology, Henry Ford Hospital, Detroit; Merrill-Palmer Institute, Detroit; Department of Education, Eastern Michigan University, Ypsilanti.

Publications: (1) Greulich, W. W. and Pyle, S. I. *A radiographic atlas of skeletal development of the hand and wrist* (2nd ed.) Stanford, California: Stanford University Press, 1959. (2) Hoerr, N. L.; Pyle, S. I.; and Francis, C. C. *A radiographic atlas of skeletal development of the foot and ankle* (1st ed.) Springfield, Illinois: Charles C. Thomas, 1962. (3) Pyle, S. I. and Hoerr, N. L. *A standard of reference for the growing knee.* (2nd ed.) Springfield, Illinois: Charles C. Thomas, 1969. (4) Pyle, S. I.; Waterhouse, A. M.; and Greulich, W. W. *A standard of reference for the growing hand and wrist.* (1st ed.) Cleveland: The Press of Case Western Reserve University, 1971.

36-AA-8 METHODS IN CHARACTER DEVELOPMENT

Investigator(s): Ernest M. Ligon, Ph.D., Director; and staff, Union College Character Research Project, 10 Nott Terrace, Schenectady, New York 12308.

Purpose: To develop more effective methods in character development in cooperation with families and character training agencies. (Character is defined in terms of three dimensions: philosophy of values, breadth of social vision, and strength of purpose.)

Subjects: Children and families throughout the United States. The families belong to churches, YMCAs, and schools but participate in the study as individual families.

Methods: Procedures of the research are based on action research, in which the participants cooperate with the laboratory and use methods of coscientist research. Open-ended reports on research goals constitute the basic body of research data. An analysis of these data serves as the basis for the development of new procedures and for the scientific reports that are published concerning it.

Findings: Reports have been prepared concerning hypotheses tested in the home and character building agencies. Most of the findings relate to the home, learning, decision making, and methods for character development, plus descriptions of age level potentials, especially for decision making.

Duration: 1935-continuing.

Cooperating group(s): Lilly Endowment, Inc.

Publications: Catalog: *Attitude Education and Character Development,* which lists 44 publications and includes a price list, is available from the investigator.

36-AA-9 LONGITUDINAL GROWTH STUDIES OF CHILDREN WITH CRANIOFACIAL BIRTH DEFECTS

Investigator(s): Samuel Pruzansky, D.D.S., Director, Center for Craniofacial Anomalies, Medical Center, University of Illinois, P. O. Box 6998, Chicago, Illinois 60680.

Purpose: To study the epidemiology, genetics, morphology, physiology, and postnatal development; and to plot the natural history of children with craniofacial birth defects.

Subjects: Over 3,000 subjects, males and females, from infancy to adulthood.

Methods: The subjects were initially studied as infants. Procedures included roentgeno-

cephalometry, tomography, dental casts, and photographs. Speech and hearing, psychosocial, and pediatric evaluations supplied additional information.

Findings: Patterns of growth have been delineated that are useful in clinical management. Some conditions have been shown to get worse; some show spontaneous improvement; and others remain unchanged. Syndrome-specific cranial morphologies have been described and genetic significance has been described.

Duration: 1949-continuing.

Cooperating group(s): Illinois State Pediatric Institute; Division of Services for Crippled Children, University of Illinois; Cook County Children's Hospital; Division of Research, Maternal and Child Health Services, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare; National Institute of Dental Research, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: *Cleft Palate Journal.* 1971, 8, 239. A list of articles in journals of dentistry, medicine, public health, speech and hearing, and psychology is available from the investigator.

36-AA-10 NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS (NAEP)

Investigator(s): J. Stanley Ahmann, Ph.D., Project Director; Roy Forbes, Ed.D., Project Director; and George Johnson, Ph.D., Associate Project Director, National Assessment of Educational Progress, 700 Lincoln Tower, 1860 Lincoln Street, Denver, Colorado 80203.

Purpose: To obtain census-like data on the knowledge, skills, concepts, understandings, and attitudes possessed by young Americans; and to measure the growth or decline in educational attainments that occur over time in the 10 learning areas assessed.

Subjects: 27,000 subjects annually in each age group: 9, 13, and 17 (including high school dropouts and early graduates); and 5,000 young adults annually, ages 26 to 35.

Methods: The National Assessment of Educational Progress is an annual national survey that assesses 10 learning areas: art, career and occupational development, citizenship, literature, mathematics, music, reading, science, social studies, and writing. Three areas have been assessed twice: science (1969-70 and 1970-73); writing (1969-70 and 1973-74); and reading (1970-71 and 1974-75). The four age levels assessed were selected to correspond to the end of primary, intermediate, secondary, and postsecondary education. A national probability sample of approximately 2,500 to 2,600 individuals per group administered package, and 2,100 to 2,200 individuals per individually administered package are assessed annually. The samples are designed to allow NAEP to estimate the performance of the population for that age level. Students in school are assessed in small groups up to 12, or in some cases, in individual interviews. Paper and pencil questions, discussions, and actual tasks to perform are included among the exercises. Adults are interviewed individually at home, and 17-year olds who are out of school also respond to exercises individually. Results are reported for about 50 percent of the exercises given each year and are stated in percentages of people responding correctly or incorrectly. Results are reported nationally and for geographic region, size and type of community, age, sex, race, and parental education.

Duration: 1969-continuing.

Cooperating group(s): National Center for Educational Statistics, U. S. Office of Education, Education Division, U. S. Department of Health, Education, and Welfare; Carnegie Corporation; Ford Foundation's Fund for the Advancement of Education; Research Triangle Institute; Measurement Research Center; Education Commission of the States.

Publications: The National Assessment Publications List is available from Education Commission of the States, 300 Lincoln Tower, 1860 Lincoln Street, Denver, Colorado 80203.

36-AA-11 COLLABORATIVE STUDIES IN CEREBRAL PALSY AND OTHER NEUROLOGICAL AND SENSORY DISORDERS OF INFANCY AND CHILDHOOD

Investigator(s): Joseph S. Drage, M.D., National Institute of Neurological and Communicative Disorders and Stroke, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare, Bethesda, Maryland 20014.

Purpose: The Collaborative Perinatal Project (CPP) is a longitudinal multidisciplinary research effort which seeks leads to the etiologies of cerebral palsy, mental retardation, learning disorders, congenital malformations, minimal brain dysfunction, convulsive disorders, and communicative disorders through studies which relate the events, conditions, and abnormalities of pregnancy, labor, and delivery to the neurological and mental development of the children of these pregnancies.

Subjects: During a period from 1959 through 1966, detailed research data were obtained from 50,000 women during pregnancy, labor, and delivery. The children born to these 50,000 women during their participation in the CPP have been examined at specific intervals up to the child's eighth birthday to identify abnormal conditions which might limit the child's ability to reach maximum developmental potential.

Methods: A comprehensive analysis of the data will investigate the complex interactions between the child's condition and the antecedent factors which may have contributed to the condition. The analysis of this data is underway within the National Institutes of Health, within other government agencies, and under contract with teams of investigators at medical centers outside of government. The Perinatal Research Branch and the National Institute of Neurological and Communicative Disorders and Stroke have the responsibility for monitoring, coordinating, and administering the overall research effort. The goal of this effort is to make a series of publications available to the research community and the general public. The projected completion of this analysis is June 30, 1976. The data for the CPP were collected at 12 major medical centers in the United States.

Duration: 1956-continuing.

Cooperating group(s): Charity Hospital, New Orleans, Louisiana; Johns Hopkins University School of Medicine, Baltimore, Maryland; Boston Lying-in Hospital, Children's Medical Center, and Harvard University (Warren Anatomical Museum), Boston, Massachusetts; University of Minnesota Medical School, Minneapolis, Minnesota; Columbia-Presbyterian Medical Center, New York, New York; Children's Hospital of Buffalo, Buffalo, New York; University of Oregon Medical School, Portland, Oregon; Children's Hospital of Philadelphia and Pennsylvania Hospital, Philadelphia, Pennsylvania; Brown University, Providence, Rhode Island; University of Tennessee Medical School, Memphis, Tennessee; Medical College of Virginia, Richmond, Virginia.

Publications: (1) Niswander, K. R. *et al. The women and their pregnancies,* 1972. (The Collaborative Perinatal Study of the National Institute of Neurological and Communicative Disorders and Stroke). Available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402. Order Stock No. 1749-00038; price, $10.00. (2) A bibliography is available from the investigator.

36-AA-12 STUDY OF PERSONALITY ORIENTED DEVELOPMENT BY THE TWIN INTRAPAIR COMPARISON METHOD

Investigator(s): William Pollin, M.D., Chief; Donald Cohen, M.D., Clinical Associate; and Eleanor Dibble, Research Social Worker, Section on Twin and Sibling Studies, Adult Psychiatry Branch, National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare, Bethesda, Maryland 20014.

Purpose: To understand the contributions of genetic, constitutional, and environmental factors to social, emotional, and cognitive development during the first years of life; specifically, to explicate the factors that underlie the emergence of individuality, using twins and triplets as subjects.

Subjects: Twins and triplets, from the prenatal period through elementary school age.

Methods: The central methodological principle emphasizes the effort to define precisely developmental difference within infant and childhood MZ twin pairs, and then search for the determinants of such differences. In the longitudinal study, parents are interviewed as soon as the diagnosis of a twin pregnancy is made. Neurological, pediatric, and developmental assessments are performed at birth and at 3- to 6-month intervals during the first years of life. The parents are interviewed at the same intervals about the children's development and family history. In the preschool period, the children receive standardized psychological testing, are observed in a standardized nursery school setting, and are administered projective psychological testing. Children and families are visited at home and also seen in structured office settings. In cross-sectional studies, children are seen for developmental evaluation, psychological assessment, and observations of free play, and their parents are interviewed. The value of questionnaire techniques is being investigated. A general research question relates to the way in which constitutional differences in the children elicit different types of parenting, and the ways in which differential parental behavior shapes the emergence of personality differences in children.

Duration: 1967-1980.

36-AA-13 PREVENTIVELY ORIENTED SCHOOL MENTAL HEALTH PROGRAMS

Investigator(s): Emory L. Cowen, Ph.D., Professor, Department of Psychology, and Director, Primary Mental Health Project; D. A. Dorr, Ph.D., Research Coordinator; L. D. Izzo, M.A., Chief Psychologist; and M. A. Trost, M.A., Chief Social Worker, Primary Mental Health Project, University of Rochester, River Campus Station, Rochester, New York 14627.

Purpose: To detect and prevent school maladaptation.

Subjects: 7,500 school children including 4,500 primary children in 11 preventively oriented school mental health programs.

Methods: Current research, which originated in 1958 (see *Research Relating to Children, Bulletin 19*, January-September 1965, Study 19-SS-7, p. 214), includes 23 studies on training nonprofessionals, evaluation of programs, process analyses, selection-process relations, selection-outcome relations, and process-outcome relations. Between 20 and 30 different research instruments and assessment procedures are being used.

Duration: 1958-continuing.

36-AA-14 LANGUAGE ACQUISITION IN THE CONTEXT OF THE DEVELOPMENT OF BEHAVIOR AND INTERACTION

Investigator(s): Margaret Bullowa, M.D., Researcher, Speech Communication Group, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.

Purpose: To find the steps by which early stages of the child's language development take place.

Subjects: Four firstborn children from white, English-speaking, middle class families.

Methods: Each child was observed from birth for at least 30 months at home at weekly intervals. On each visit a half hour continuous record was made on tape and film. An observer using a shielded microphone dictated a simultaneous description of ongoing behavior and interaction to supplement the film taken by a robot camera. A timing signal was placed on the tape and film every 5 seconds. (The tape and film from an observation may be synchronized during playback in the laboratory.) In addition, an independent team that consisted of a pediatrician and a developmental psychologist visited each baby's home once a month to assess other aspects of maturation and development. Indexes to sound and transcripts were made from the tapes to permit rapid search. Tapes are analyzed by linguists interested in phonological, semantic and syntactic features. Synchronized tape and film is studied by linguists and by the principal investigator, who is interested in the communicative behavior of which the vocalization forms a part.

Findings: The most significant finding is the apparent obligatory relationship between the child's vocal sound production and actions with the same meaning in early *performative sentences.* Such sentences are used by the child to communicate messages when he is showing something to someone, when he is greeting someone, etc. Another finding is the spontaneous appearance of sentences with topic-comment construction in the child's speech even though parents rarely use this construction. (The construction is not characteristic of adult American English.)

Duration: Pilot study, 1959-1965; present study, 1965-continuing.

Cooperating group(s): National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: *Journal of Child Psychiatry,* 1964, III(1), 53; *Monographs of the Society for Research in Child Development,* 1964, 29(1), 101-114; *Language and Speech,* 1964, 7(2), 107-111; *Quarterly Progress Report of the Research Laboratory of Electronics,* 1966, 81, 181-186; *Lingua,* 1967, 19(1), 1-59; *Foundations of Language,* 1967, 1, 37-65; Reibel, D. A. and Schane, S. A. (Eds.) *Modern studies in English.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969. Pp. 422-447; Bar-Adon, A. and Leopold, W. F. (Eds.) *Child language: A book of readings.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971; *Journal of the American Academy of Child Psychiatry,* 1971, 10(1), 124-135; *Quarterly Progress Report of the Research Laboratory of Electronics,* M.I.T., 1971, No. 100.

36-AA-15 THE HARVARD PRESCHOOL PROJECT

Investigator(s): Burton L. White, Ph.D., Director; Jean Watts, Ph.D., Co-Director; and Barbara Kaban, M.A., The Harvard Preschool Project, Laboratory of Human Development, Graduate School of Education, Harvard University, 418 Larsen Hall, Appian Way, Cambridge, Massachusetts 02138.

Purpose: To trace the development of educability and competence in children during the first 6 years of life, and simultaneously to trace the role of experience in such development.
Subjects: Presently, 32 normal children, ages 12 to 32 months, of both sexes, half of whom were selected because they exhibited potentials to develop high degrees of general competence during the second and third years of life; while the other children seemed likely to develop a considerably lower level of competence.
Methods: The work in progress constitutes a longitudinal natural experiment. Data are collected by home observation and testing of the children on the average of 2 hours per week. One observational technique consists of tape recordings in which the observer describes the child's activities. The data are then coded onto forms using instruments developed for the project. Another technique involves a checklist record of behavior. Tests of language and cognitive development are administered regularly. Factors, including stream of experience, the child's competencies, and salient environmental influences, are measured.
Findings: Analysis of preliminary data indicates that the observation instruments are monitoring the development of competence in promising ways. Further indications of how childrearing practices influence the process are becoming clear. The mother or substitute, usually through indirect action, is seen as the major environmental influence on the development of competence. A longitudinal experiment will be initiated this year. (See *Research Relating to Children, Bulletin 22,* May-December 1967, Study 22-DA-3, p. 16.)
Duration: September 1965-continuing.
Cooperating group(s): U. S. Office of Economic Opportunity; Carnegie Corporation, New York; Head Start, Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.

38-AA-18 LEARNING OF INCENTIVE VALUE IN CHILDREN

Investigator(s): Jum C. Nunnally, Ph.D., Professor, Department of Psychology, Vanderbilt University, Nashville, Tennessee 37203.
Purpose: To study the learning of incentive value in children through the use of reward conditioning.
Subjects: Elementary school children, ages 7 to 11.
Methods: Neutral objects (usually nonsense syllables) are associated with receipt of reward, nonreward, and loss of reward in various types of research designs. The amounts and kinds of condition reward value are measured in relation to verbal evaluation, reward expectancy, choice behavior, and measures of selective attention.
Findings: Various consistent effects have been found on the dependent measures, and the research paradigms have been able to differentiate many treatment conditions concerned with secondary rewards.
Duration: 1963-continuing.
Cooperating group(s): Office of Education, U. S. Department of Health, Education, and Welfare.
Publications: Rileigh, K. K. and Nunnally, J. C. A new measure of semantic appraisal for studies of secondary rewards. *Psychonomic Science,* 1970, 18, 203-205; Wilson, W. H. and Nunnally, J. C. A naturalistic investigation of acquired meaning in children. *Psychonomic Science,* 1971, 23, 149-150.

36-AA-17 CHILDHOOD PSYCHOSIS

Investigator(s): Rudolf Ekstein, Ph.D., Director, Childhood Psychosis Project; Seymour W. Friedman, M.D., Director, Clinical Services; Peter Landres, M.D., Staff Psychiatrist; Beatrice M. Cooper, M.A., Senior Research Social Worker; and Joel Liebowitz, Ph.D., Clinical Research Psychologist, Reiss-Davis Study Center, 9760 West Pico Boulevard, Los Angeles, California 90035.

Purpose: To develop better diagnostic and treatment methods for childhood psychosis; and to investigate psychoanalytic methods of treatment, the use of support systems, and work with parents, collaborating agencies, schools, and hospitals.

Subjects: 10 children, ages 5 to 20.

Methods: Data were gathered through tape recordings of psychotherapy sessions, therapists' summaries of sessions, and repeated psychological tests. The use of *distance* as a psychological mechanism will be investigated. (See *Research Relating to Children, Bulletin 18,* March-December 1964, Study 18-L-36, p. 58; and *Bulletin 20,* October 1965-May 1966, Study 20-IA-1, p. 72.)

Duration: 1957-continuing.

Publications: *Children of time and space, of action and impulse.* New York: Appleton-Century-Crofts, 1966; *The challenge: Despair and hope in the conquest of inner space.* New York: Brunner/Mazel, 1971; Ekstein, R. and Friedman, S. W. Do you have faith that I'll make it? *Reiss-Davis Clinic Bulletin,* 1971, 8(2); Rubin, K. The flawed hammer. *Reiss-Davis Clinic Bulletin,* 1971, 8(2); Cooper, B. The flawed triangle. *Reiss-Davis Clinic Bulletin,* 1971, 8(2); Leibowitz, J. M. Transformation of the flaw — Re-evaluation via psychological testing. *Reiss-Davis Clinic Bulletin,* 1971, 8(2); Ekstein, R. and Wax, D. Fusion and diffusion of memory and perception in childhood psychosis in relation to psychotherapeutic innovations. *Reiss-Davis Clinic Bulletin,* 1972, 9(2); Ekstein, R.; Friedman, S.; and Caruth, E. The psychoanalytic treatment of childhood schizophrenia. In B. B. Wolman (Ed.), *Manual of child psychopathology.* New York: McGraw Hill, 1972. Pp. 1035-1057.

36-AA-18 A SURVEY OF THE NUTRITIONAL STATUS OF BRITISH SCHOOL CHILDREN

Investigator(s): Judith Cook, M.B., B.Chem., Lecturer; Douglas Altman, B.Sc., Lecturer; W. W. Holland, M.D., F.F.C.M., Professor; and S. G. Topp, B.Sc., Dip.Stat., Lecturer, Department of Clinical Epidemiology and Social Medicine, School of Medicine, St. Thomas' Hospital, London, S.E.1, England; and A. Elliott, M.D., D.P.H., County Medical Officer, Kent County Council, Kent, England.

Purpose: To examine the dietary intake of school children and investigate its relationship to health and socioeconomic factors; and to explore the extent and nature of poor nutrition.

Subjects: 1,017 children, born between 1953 and 1955 or between 1958 and 1960, residing in and attending Local Authority schools in four areas in Kent, England. The sample was stratified by social class, family size, and weight. Higher sampling fractions were taken for children from four groups: (1) from larger families, (2) from lower social classes, (3) with no fathers, and (4) with low weights; in order to have adequate numbers of subjects in those groups suspected of having the greatest likelihood of deficiency.

Methods: Field work for each child, conducted between September 1968 and March 1970, was comprised of a weighted diet record, a socioeconomic questionnaire, and a medical examination. The weighted diet record was kept for 1 week and was closely supervised

by a trained field worker. The same field worker administered the socioeconomic questionnaire which elicited information on family structure, father's occupation, mother's education and working status, the child's health history and eating pattern, and the parents' heights. The medical examination, carried out by one of two medical officers, included a clinical assessment of the nutritional status of the child; measurements of height, weight, triceps and subscapular skinfold thickness, arm circumference, and peak expiratory flow rate. The medical examination also noted clinical evidence of vitamin deficiency.

Duration: 1968-continuing.

Cooperating group(s): Department of Health and Social Security.

Publications: (1) Cook, J. *et al.* A survey of the nutritional status of school children. Relation between nutrient intake and socioeconomic factors. *British Journal of Preventive Social Medicine,* 1973, 27, 91-99. (2) Topp, S. G.; Cook, J.; and Elliott, A. Measurement of nutritional intake among school children. *British Journal of Preventive Social Medicine,* 1972, 26, 106.

36-AA-19 RESEARCH AND GUIDANCE LABORATORY SUPERIOR STUDENT PROJECT

Investigator(s): Marshall P. Sanborn, Ph.D., Director; and Charles Pulvino, Ph.D., Associate Director, Research and Guidance Laboratory, University of Wisconsin, 1025 West Johnson, Madison, Wisconsin 53706.

Purpose: To develop and demonstrate procedures for the identification and description of multipotential and promising youth; to study the guidance and educational development of human potential; and to serve as a demonstration and development center for counseling, guidance, and planning activities for all cooperating high schools.

Subjects: This is a longitudinal sample now numbering 3,700 males and females, ages 14 to 30, from 90 Wisconsin school systems, whose average mental test scores are in the upper three to five percent of students in their age range and grade in school. Subjects are selected using criteria designed to identify multipotential youth in grade 9. These criteria include aspects of the student's vocabulary, spoken and written communication, reading background, range of interests, school performance, creativity, and learning behavior.

Methods: Subjects visit the laboratory facilities for 1 day at least once during their period of high school attendance. Arranged activities include testing and evaluation, analysis of written and oral performances, visits to classes and laboratories, and conferences with university staff members in any area of interest. These activities are designed to (1) broaden students' horizons with respect to educational and vocational opportunities, (2) develop realistic self-concepts about their own strengths and interests, (3) foster plans for suitable educational programs, (4) discover methods for overcoming limitations, (5) encourage development of personal and academic strengths, and (6) provide counsel on matters that may influence the individual student's fullest development. Findings are interpreted and implications are considered with the student in individual counseling sessions. Laboratory staff teams (1) visit students' schools and hold conferences with the parents of each participating child to inform parents about characteristics of their children which they may not know; (2) stimulate action of parents to meet their child's developmental needs; (3) facilitate communication between the parents, school, and student; and (4) discover points of view and other parental characteristics which affect the student's development. A written report regarding each individual student is sent to his or her school containing information about the student's performance, interests, and needs, as well as suggestions the school could implement to provide desired

educational or personal experiences. Inservice training sessions are held to discuss specific students, suggestions to the school, and general principles for guidance and education for superior students. Objectives of these training sessions are (1) stimulation of and assistance with the processes of identification of superior students; (2) encouragement and assistance in making special provision for the development of superior students, and stimulation to do so for other students; (3) provision of information about educational and vocational requirements and opportunities particularly applicable to superior students; (4) encouragement of innovation and experimentation in school procedures for superior students as well as for other students; and (5) demonstration of appropriate guidance services for high school students. Although there are difficulties in obtaining adequate control groups, some research studies have been done comparing laboratory participants with other students matched on academic, familial, school, and community variables. In addition, comparisons of the effectiveness of two or more procedures for accomplishing a particular guidance goal have been made in other laboratory research studies.

Findings: The Research and Guidance Laboratory is a cooperative effort which has maintained direct, personal, longitudinal, and functional relationships between the University of Wisconsin and 3,700 top students, their parents, and their teachers throughout Wisconsin. (See *Research Relating to Children, Bulletin 22*, May-December 1967, Study 22-QA-1, p. 83) More than 97 percent of all student participants who have graduated from high school have enrolled in higher education programs. Many have gone on to graduate and professional study. As a group, these young people have established a very outstanding record in college.

Duration: 1957-continuing.

Cooperating group(s): Office of Education, Education Division, U. S. Department of Health, Education, and Welfare; 90 cooperating school systems in Wisconsin.

Publications: (1) Sanborn, P. and Niemiec, C. J. Identifying values of superior high school students. *School Counselor*, March 1971. (2) Bradley, R. W. and Sanborn, M. P. Ordinal position of high school students identified by their teachers as superior. *Journal of Educational Psychology*, 1969, 60(1), 41-45. (3) Mowsesian, R.; Heath, R. G.; and Rothney, J. W. M. Superior students' occupational preferences and their fathers' occupations. *Personnel and Guidance Journal*, November 1966. Refer to *Education Index* for other publications related to this project.

36-AA-20 NATIONAL CHILD DEVELOPMENT STUDY

Investigator(s): V. R. Fogelman, Senior Research Officer, National Children's Bureau, 8 Wakeley Street, Islington, London E.C.1., England.

Purpose: To conduct a multidisciplinary, longitudinal study of a representative sample of British children to chart their physical, educational, and social development from birth to maturity.

Subjects: Approximately 16,000 children comprising all the children in England, Scotland, and Wales born during the week of March 3-9, 1958.

Methods: Medical and social background information was collected at birth by questionnaires through hospitals and midwives. Follow ups are conducted at ages 7, 11, and 16 consisting of a medical examination, a questionnaire completed by the subject's school, tests of attainment, and a home interview with the parents. At ages 11 and 16 only, questionnaires are completed by the subjects. In addition, special studies of subsamples are being performed. These usually involve further questionnaires and/or interviews. Some of the substudies focus on children in one-parent families, and adopted, illegitimate,

mentally handicapped, physically handicapped, socially disadvantaged, and gifted children.
Duration: 1958-1977.
Cooperating group(s): Association of Directors of Education, Scotland; Department of Education and Science; Department of Health and Social Security; Institute of Child Health, University of London; National Birthday Trust Fund; National Foundation for Educational Research; Society of Education Officers; Society of Community Medicine.

GROWTH AND DEVELOPMENT

General

36-BA-1 LONGITUDINAL STUDY OF THE CONSEQUENCES OF PREMATURITY

Investigator(s): Daniel V. Caputo, Ph.D.; and Harvey B. Taub, Ph.D., Senior Research Consultants, North Richmond Community Mental Health Center, 55 Austin Place, Staten Island, New York 10301; and Kenneth M. Goldstein, Ph.D., Director, Division of Research and Development, Staten Island Children's Community Mental Health Center, 657 Castleton Avenue, Staten Island, New York 10301.
Purpose: To assess the long-term sequelae of prematurity; and to assess the value of the criteria of prematurity in the prediction of performance from ages 7 to 9.
Subjects: 70 children, ages 7 to 9, half of whom were born prematurely.
Methods: The sample is composed of subjects from a previously studied group of 233 children of low and normal birthweights. Follow-up data will be gathered by administering the Wechsler Intelligence Scale for Children, Dreger's Behavioral Checklist, and the Bender-Gestalt Test. The child's social history and school record will also be used. Data will be related to perinatal and 1-year data.
Duration: 1965-1976.
Publications: (1) Taub, H. B.; Caputo, D. V.; and Goldstein, K. M. Toward a modification of the indices of neonatal prematurity. *Perceptual and Motor Skills*, 1975, 40, 43-48. (2) Caputo, D. V. *et al.* An evaluation of various parameters of maturity at birth as predictors of development at one year of life. *Perceptual and Motor Skills*, 1974, 39, 631-652.

36-BA-2 GROWTH AND DEVELOPMENT OF ESKIMO CHILDREN

Investigator(s): D. Conrad Milne, Ph.D., Assistant Professor, Faculty of Physical Education, University of Western Ontario, 415 Talbot College, London, Ontario, Canada.
Purpose: To investigate early developmental motor patterns, somatotypes, sport skill development, and physical fitness of Eskimo youth in the high Eastern Canadian Arctic.
Subjects: 100 boys and girls: children, ages 9 to 14, were tested for physical fitness; children, ages 3 to 60 months, were studied for developmental patterns.
Methods: The subjects chosen were from Frobisher Bay, Resolute Bay, and Grise Fiord in the Northwest Territories, Canada. Physical fitness was measured by the Modified Step Test (Balke) and pulse rate was used to predict maximum oxygen uptake (aerobic capacity). The Denver Developmental Screening Test was used to measure early developmental patterns and somatotyping was done by the Heath-Carter Method.
Findings: Gross motor milestones were delayed in infancy and early years because of childrearing practices and cultural factors. Eskimo children were above average in physical fitness when compared to North American norms.
Duration: May 1974-December 1977.
Cooperating group(s): Department of Northern Affairs, Government of Canada.

36-BA-3 BIOELECTRIC/PHYSIOLOGICAL/BEHAVIORAL STUDIES IN NORMAL AND ABNORMAL NEWBORNS

Investigator(s): Cesare T. Lombroso, M.D., Ph.D., Chief, Division of Neurophysiology and Seizure Unit, Children's Hospital Medical Center, Boston, Massachusetts 02115.

Purpose: To establish, in prospective study, values of serial quantified polygraphic examinations during the newborn period related to normal and abnormal central nervous system development of human infants.

Subjects: 30 normal and 30 ill infants, 34 weeks gestation age to 46 weeks chronological age.

Methods: At weekly intervals, each subject will be given a full polygraphic behavioral study which includes respiration rate, an electroencephalogram, an electrooculogram, and an electromyogram. Behavioral observations will be made during the examination and by videotape. Selected parameters will be quantified in both the normal and abnormal infants to establish normal and abnormal rates of maturation. A clinical follow-up will be made when the infants are between ages 3 and 5.

Findings: The data show evidence of significanf deviations, in ill newborns, from expected maturational levels. Some infants regain at rapidly expected rates; others lag behind.

Duration: 1973-1977.

Cooperating group(s): National Institute of Neurological and Communicative Disorders and Stroke, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: (1) Lombroso, C. T. Seizure states in newborn. In Vinken, E. and Bruyn, G. W. (Eds.), *Handbook of Clinical Neurology-Volume 15*. Amsterdam: North Holland Publishing Company, 1973. (2) Symposium on neurophysiology of newborn, June 1974. *Journal of Biological Psychiatry*, 1975.

36-BA-4 THE MULTIPLE BIRTH FAMILY: DEVELOPMENTAL COUNSELING AND STUDIES OF LONGITUDINAL GROWTH AND DEVELOPMENT OF MULTIPLE BIRTH CHILDREN

Investigator(s): Sherman Feinstein, M.D., Director of Training, Child Psychiatry; Vita Krall, Ph.D., Director of Training, Clinical Psychology; and Dennis L. Kennedy, Ph.D., Senior Staff Psychologist, Michael Reese Hospital, Chicago, Illinois 60616.

Purpose: To trace the mental and motor development of multiple birth, low birthweight children; and to relate this to the development of object constancy, object relations, and attachment behavior.

Subjects: A set of quintuplets born January 5, 1973; and a set of quadruplets born April 22, 1974.

Methods: The infants have been seen every 3 months during the first 2 years of life, and every 6 months for the second year of life, serving thus far as their own controls. The measures used in the first 2 years are the Bayley Scales of Infant Development and the Decarie Object Constancy and Objectal Scales. When the child is 2½, a play time sampling study will be introduced in order to evaluate attachment and stranger anxiety. The child's mother and a stranger will take part in the sampling.

Findings: Preliminary findings reveal that functioning begins to catch up to birth age only at about the second year of life. Objectal development seems to precede object constancy with these infants, but begins to be equivalent at about the first year of life.

Duration: April 1973-continuing.

36-BA-5 DEVELOPMENTAL STUDIES OF PREMATURE AND FULL-TERM INFANTS

Investigator(s): Anneliese F. Korner, Ph.D., Adjunct Professor of Psychiatry, School of Medicine, Stanford University, Stanford, California 94305.

Purpose: To test through a longitudinal study whether the behavioral and neurological development and the clinical course of premature infants is enhanced as a function of compensatory vestibular-proprioceptive stimulation similar to that prevailing *in utero;* to study the ontogeny of motility and crying patterns; and to compare motility patterns between a normative group of neonates and populations at risk.

Subjects: Premature infants of both sexes, studied between ages 27 weeks gestational to 6 months postterm. Full-term infants of both sexes are studied through the 4th postnatal day.

Methods: Compensatory vestibular-proprioceptive stimulation is provided to premature infants through waterbed flotation. Two types of waterbeds were designed, one of which provides gentle, irregular oscillations. Effects are assessed through time lapse television and activity monitoring. Neurological, behavioral, and psychological follow-up is made by examiners not familiar with the experimental or control status of the subjects. Motility studies are done with an electronic monitor (developed by the Stanford University School of Medicine), which distinguishes between crying and noncrying activity of various amplitudes and gives integrated data on the periodicity of rest-activity cycles.

Findings: Infants on the oscillating waterbed had significantly fewer apneas than did the control group. Motility studies show that total activity is heavily confounded with how irritable a baby is, and that noncrying activity is a much cleaner and potentially more predictive measure.

Duration: 1968-continuing.

Cooperating group(s): Grant Foundation; Boys Town Center for the Study of Youth Development, Stanford University; Kaiser-Permanente Hospital; National Institute of Child Health and Human, Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: (1) Korner, A. F. Effects of waterbed flotation on premature infants: A pilot study. *Pediatrics* (in press). (2) Korner, A. F.; Thoman, E. B.; and Glick, J. H. A system of monitoring crying and noncrying, large, medium and small neonatal movements. *Child Development*, 1974, 45, 946-952. (3) Korner, A. F.; Kraemer, H. C.; Haffner, M. E.; and Thoman, E. B. Characteristics of crying and noncrying activity of full-term neonates. *Child Development*, 1974, 45, 953-958.

36-BA-6 FOLLOW-UP STUDY OF THE MATURITY PROCESS IN SWEDISH ADOLESCENTS

Investigator(s): Bengt-Olov Ljung, Ph.D., Scientific Leader; and Siv Fischbein, Ph.D., Project Leader, Department of Education and Psychology, Stockholm School of Education, Fack, S-100 26, Stockholm 34, Sweden.

Purpose: To study the physical and mental developmental processes of adolescents; and to investigate the relation of genetic background to these processes.

Subjects: In 1964, the total sample comprised 323 pairs of twins and 1,193 of their classmates in 40 Swedish towns and cities. Ninety-one pairs of twins were diagnosed as monozygotic and 135 as dizygotic, and there were 97 boy-girl pairs. The comparison subjects included 595 girls and 598 boys. The overwhelming majority (90 percent) of the pupils involved were born in 1955 and have been followed since age 9 or 10 when they were in grade 3 to the end of grade 9.

Methods: Height and weight measurements were taken, and estimates were made of secondary characteristics twice a year from spring term, grade 3 until grade 9. The boys (about 50 percent) who went on to upper secondary school were also weighed and measured in grade 1. Menarche data were collected for the girls. The KUP Test, a mental arithmetic test reflecting the manner in which pupils work when concentrating on tasks of a fairly mechanical nature, was administered once yearly from grade 3 to grade 7. Standardized achievement test results and the pupils' estimates of their own achievements were collected for Swedish in grade 3 and mathematics in grades 3 and 6. Sociometric measurements were taken at the beginning and end of middle level, in grades 4 and 6. In connection with these measurements, the pupils were also asked to complete a questionnaire in which they answered various questions about physical puberty, the view that they believed adults and coevals had of them in this respect, and their own views on the subject. The teachers were asked to comment on the pupils' adjustment in class at the end of junior level (grade 3) and at the end of middle level (grade 6). In grade 5, the pupils took four subtests from DBA (a differential ability test). Finally, marks for Swedish, English, and mathematics were collected in grade 6.

Findings: The analyses so far made of the comprehensive material collected have been primarily concerned with the physical development of the subject population. Comparing these findings with previous studies, it is found that school children today are taller and slimmer on the average, and that the growth spurt comes earlier. There has been a shift of about half a year in this respect since the end of the 1930s. There is an appreciable difference between boys and girls regarding the onset of physical maturity. On the average, the girls attain puberty 2 years earlier than the boys. Achievement rises continuously for both boys and girls from grades 4 to 6. In grade 6, the girls are academically significantly better than the boys. Where other measurements are concerned, the greatest change comes between grades 4 and 5; the change occurring between grades 5 and 6 is relatively small. According to the KUP Test, boys have greater difficulty than girls in concentrating in all three grades.

Duration: October 1975-continuing.

36-BA-7 INFANT AND MATERNAL BEHAVIORS REGULATING EARLY GROWTH

Investigator(s): Ernesto Pollitt, Ph.D., Associate Professor, Department of Nutrition and Food Science, Room 20B - 213, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.

Purpose: To assess the role of infant temperament, sucking ability, and maternal caretaking behavior on the physical growth of the child during the first 12 months of life.

Subjects: A pilot study will involve 60 female and male newborns at the University District Hospital, San Juan, Puerto Rico. A heterogeneous sample of babies born during February 1976 will be studied.

Methods: Observations will be obtained when the infants are 2 days and 2 months old. The Brazelton Neonatal Assessment Scale will be used to assess the general behavioral responsiveness (temperament) of the infant and his/her characteristic state. Sucking ability will be determined by measuring intake, activity level changes, and nurse and mother ratings of the infant's capacity to feed. In addition, a nipple connected to a pressure transducer will be used to measure rate and strength in millimeters of mercury of the sucking response. Maternal caretaking effectiveness will include parameters of quality and quantity. Quality of caretaking is defined as the capacity to recognize and respond appropriately to the infant's needs. Quantity will be limited by objective constraints. Both will be assessed by observation and interviews.

Duration: August 1975-August 1976.
Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U.S. Department of Health, Education, and Welfare.
Publications: Pollitt, E. Behavior of infant in causation of nutritional marasmus. *The American Journal of Clinical Nutrition*, 1973, 26, 264-270.

Physical

36-CA-1 PREMATURE INFANT REFOCUS

Investigator(s): Kathryn E. Barnard, Ph.D., Professor of Nursing; Bernice Collar, R.N., M.Ed.; Waldemar H. Wenner, M.D.; and Bruce Weber, Ph.D., Premature Infant Refocus Project, Maternal and Child Nursing, University of Washington, Seattle, Washington 98195.
Purpose: To explore the influence of the preterm infant's early environment on organization of behavior, subsequent growth and development, and parenting.
Subjects: 240 infants born at or prior to 34 weeks gestational age.
Methods: The study involves testing two rocker-heart beat programs of patterned stimulation: one in which the program is turned on automatically according to predetermined schedule (T1), and one program which is activated by the infant's own pattern of activity (T2). The subjects will be studied from birth to 8 months. The design of the study involves stratification and blocking on two variables associated with later outcomes: gestational age and clinical status. Infants will be randomly assigned to treatment (T1 and T2) and control groups on the basis of the stratification variables. Data will be collected on sleep-wake behavior, auditory evoked response (AER), habituation, behavior using the Brazelton Neonatal Assessment Scale, neurological status, parent-infant interaction, parental perception of and involvement with the infant, and growth and development of the infant using the Bayley Test of Infant Development. Sleep-wake behavior will be analyzed using time-lapse video recordings to provide a comprehensive 24-hour assessment of organization and response to caretaking activities.
Findings: The initial development year has focused on finalizing the experimental design and establishing specific test methodologies including refining parent-infant interaction measures, developing an infant-activated rocker-heart beat program, adapting the Brazelton assessment to include descriptions of the premature's behavioral variations, developing concordance between videotape and polygraphic recordings of sleep-wake behavior, and developing AER habituation, initial status and neurologic assessment measures for the premature.
Duration: September 1974-August 1979.
Cooperating group(s): Maternal-Child Health-Crippled Children's Services Research Grant Division, Division of Neonatal Biology and Neonatal Intensive Care Unit, University of Washington.
Publications: Barnard, K.E. The effect of stimulation on the sleep behavior of the premature infant. *Communicating Nursing Research*, December 1973, 6, 12-40.

36-CC-1 INTERPUPILLARY DISTANCE AND GROWTH

Investigator(s): H. W. Hofstetter, Ph.D., O.D., Division of Optometry, Indiana University, Bloomington, Indiana 47401.
Purpose: To gather data on secular and age changes in interpupillary distance.
Subjects: A large number of subjects, both sexes, all ages, chosen from various clinical and private practices.
Methods: A newly designed instrument for measurement of interpupillary distance by the subject himself is presently being tested.
Findings: Approximately 1 millimeter of growth per year has been found up to age 15 in females and age 18 in males. There has been some increase over the last 100 years.
Duration: 1971-continuing.

36-CC-2 APPLICATION OF THE CRIB-O-GRAM IN DIAGNOSTIC AUDIOLOGY

Investigator(s): George T. Mencher, Ph.D., Director, Nova Scotia Hearing and Speech Clinic, 5919 South Street, c/o IWK Hospital, Halifax, Nova Scotia, Canada B3J 3G6.
Purpose: To assess a semiobjective hearing screening test and its application to more in-depth diagnostic testing.
Subjects: 10 normal babies, ages 1 to 6 months, and 10 babies suspected of hearing loss. Subjects are matched for age.
Methods: The Crib-o-gram was administered by the basic technique described in the literature. The instrument was administered at home and on the hospital ward. The subjects were tested over 24 hours and each subject was given 20 trials. In analyzing the data, two questions were considered: Does the Crib-o-gram determine hard of hearing? and Do scorers agree on what they score?
Findings: The Crib-o-gram works to identify hearing loss greater than 75 decibels. Observers and scorers agree nearly 100 percent.
Duration: February 1975-February 1976.
Cooperating group(s): Elks Purple Cross-Deaf Detection and Development Fund.

36-CE-1 PATTERNS OF FOOD INTAKE AND NUTRITIONAL HEALTH OF GIRLS

Investigator(s): Carol Waslien, Ph.D., Head; and Linda Lisano, M.S., Research Associate, Department of Nutrition and Foods, Auburn University, Auburn, Alabama 36830.
Purpose: To correlate food choices with nutritional health of girls, ages 9 to 12; and to assess the impact of economic level and ethnic background on food choices and nutritional health of the subjects.
Subjects: 100 girls (50 white and 50 from other ethnic groups), ages 9 years plus or minus 6 months. Half of the subjects were from low income families ($1200 per capita year, or less), and half from families of higher income ($2,000 or more per capita year). Girls with known metabolic disorders were excluded from the study.
Methods: Seven questionnaires, concerned with evaluating the socioeconomic condition of the girls' families and their food intake as well as the girls' health and food habits, were completed on each participant. A 24-hour dietary recall was taken, and intake of

major nutrients, vitamins, and minerals was determined. Blood samples were collected once during the year and analyzed for hemoglobin, hematocrit, tryglycerides, cholesterol, vitamin A and carotenoids, iron and iron binding capacity, total protein and albumin, glutamic oxolacetic acid transaminase, and folacin.

Findings: There was no significant difference related to race or income for glutamic-oxolacetic acid transaminase, vitamin A, total protein, and urinary thiamine. Black girls had lower values for folacin, carotenoids, albumin, tryglycerides, and urinary ascorbic acid. They had higher iron binding capacities of gammaglobulins, cholesterol, and urinary zinc. They were also taller and thinner than white girls.

Duration: July 1972-June 1976.

Cooperating group(s): Cooperative States Research Service, U. S. Department of Agriculture; Alabama Experiment Station.

Publications: (1) Riester, P. T. and Waslien, C. I. Folacin status of nine year old girls in Alabama. *Federation Proceedings*, 1975, 34, 904. (2) Lisano, L. Serum protein fractions in preadolescent girls. *Federation Proceedings*, 1975, 34, 898.

36-CE-2 PATTERNS OF FOOD INTAKE AND NUTRITIONAL HEALTH OF GIRLS

Investigator(s): Gail W. Disney, Ph.D., Assistant Professor; and Roy E. Beauchene, Ph.D., Professor; Mary Rose Gram, Ph.D., Professor; and Rossie L. Mason, M.S., Assistant Professor, Department of Food Science, Nutrition and Food Systems Administration, University of Tennessee, Knoxville, Tennessee 37916.

Purpose: To correlate the food choices with nutritional health of girls, ages 9 to 12; to assess the impact of economic level and ethnic background on nutritional health; and to propose guidelines for programs to improve nutritional health.

Subjects: 100 girls, age 9 at the beginning of the project. The sample includes equal numbers of blacks and whites and low and middle-high income levels. The subjects have no known metabolic disorders.

Methods: This is a 3-year longitudinal study being conducted concurrently in 10 southern states. The subjects are divided into four groups: low income black, middle-high income black, low income white, and middle-high income white. Data being collected include demographic data, nutritional attitudes and knowledge, 24-hour dietary recalls, anthropometric measurements, biochemical data from blood and urinary analyses, and bone density determinations. In addition, each subject receives a physical and dental examination each year.

Findings: Some conclusions from 1973-1974 East Tennessee data include (1) higher serum carotene (mg/100 ml) and higher bone densities in blacks are independent of income, and (2) higher urinary ascorbic acid (mg/g creatinine) in the low income groups is independent of race.

Duration: July 1973-June 1977.

Cooperating group(s): Tennessee Agricultural Experiment Station; Tennessee State University; Auburn University; University of Arkansas; University of Georgia; Louisiana State University; North Carolina State University; Texas A & M University; Virginia Polytechnical University and State University; Winthrop College.

Publications: *The S-87 Biochemical Methods Manual* is available from Georgia Agricultural Experiment Station, Athens, Georgia 30601.

36-CF-1 LEUKOCYTE FUNCTION TESTS IN CHILDREN WITH RHEUMATOID ARTHRITIS

Investigator(s): Senih Fikrig, M.D., Associate Professor, Department of Pediatrics, Downstate Medical Center, State University of New York, Brooklyn, New York 11203.
Purpose: To see if there is any association between the leukocyte function tests and susceptibility to infection.
Subjects: Boys and girls, ages 1 to 15.
Methods: This research method involves random mobilization and bactericidal functions.
Findings: Results indicate that chemotaxis is normal in contrast to adults with arthritis. Random mobilization is abnormal.
Duration: January 1975-June 1976.

36-CF-2 MORPHOLOGY OF THE NORMAL FACE IN THE HEALTHY CAUCASIAN POPULATION OF ONTARIO, CANADA

Investigator(s): Leslie G. Farkas, D.Sc., M.D., Assistant Scientist, Research Institute, The Hospital for Sick Children, 555 University Avenue, Toronto, Ontario, Canada M5G 1X8.
Purpose: To obtain control data about the normal face for comparison with congenitally damaged faces.
Subjects: 1,300 persons, ages 6 to 19; 50 males and 50 females in each of 13 age groups.
Methods: Over 140 surface measurements (anthropometry) and qualitative signs (anthroposcopy) of the face are registered in each case. The normals are collected in schools. Classical anthropological instruments and new instruments developed by the investigator are used. The data are collected in special coded charts and computer sheets for computer analysis.
Duration: 1974-1977.
Cooperating group(s): Research Foundation: The Atkinson Charitable Foundation, Toronto.

36-CF-3 CHILDREN'S ACCEPTANCE OF CARIES PREVENTIVE PROCEDURES

Investigator(s): S. Stephen Kegeles, Ph.D., Professor, Department of Behavioral Sciences and Community Health, Health Center, School of Dental Medicine, University of Connecticut, Farmington, Connecticut 06032.
Purpose: To determine the relative acceptance by children of tooth care agents requiring periodic professional attention and agents used at home on a daily basis; and to examine the effectiveness of group discussion and rewards for increasing the acceptance of either agent.
Subjects: Approximately 600 seventh grade boys and girls from three inner city and three suburban schools.
Methods: The study will be conducted as two experiments in successive years. The first experiment requires children to come to their school three times within an 11-month period to obtain topical fluoride treatments (professional treatments). The second experiment will require use of a fluoride mouthrinse 5 days a week for 6 months (home care). Within each experiment, one inner city and one suburban school will be assigned to each of three persuasive conditions: group discussion, contingency management, and control (no unusual motivational impetus).

Duration: March 1974-February 1977.
Cooperating group(s): National Institute of Dental Research, Public Health Service, U. S. Department of Health, Education, and Welfare.
Publications: A paper presented at the American Association for Dental Research Meeting, April 1975: Kelly, T.; Kegeles, S. S.; Lund, A.; and Weisenberg, M. Knowledge and attitudinal effects of a children's dental slide show. *Journal of Dental Research,* February 1975, 54 (Special Issue A).

36-CF-4 OSTEOGENESIS IMPERFECTA: PATHOPHYSIOLOGY AND TREATMENT WITH CALCITONIN

Investigator(s): Salvador Castells, M.D., Associate Professor and Director, Unit of Growth and Metabolism, Downstate Medical Center, State University of New York, 450 Clarkson Avenue, Brooklyn, New York 11203.
Purpose: To evaluate therapy with synthetic salmon calcitonin in osteogenesis imperfecta.
Subjects: 50 children, ages 6 months to 18 years, with osteogenesis imperfecta.
Methods: All the patients have been treated with synthetic salmon calcitonin. They were assessed through clinical assessment and bone density.
Findings: A decrease rate of fracture and an increase in bone density was found.
Duration: 1973-1978.
Cooperating group(s): National Foundation March of Dimes; National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.
Publications: (1) Castells, S. *et al.* Long term therapy of osteogenesis imperfecta with synthetic salmon calcitonin. *Pediatric Research,* 1975, 190, 288. (2) Castells, S. Effects of porcine calcitonin in osteogenesis imperfecta tarda. In S. S. Gellis (Ed.), *Year Book of Pediatrics,* Chicago: Year Book Medical Publishers, 1974. P. 275. (3) Castells, S. *et al.* Effects of synthetic salmon calcitonin in osteogenesis imperfecta. *Current Therapeutic Research,* 1974, 16, 1. (4) Castells, S. New approaches to treatment of osteogenesis imperfecta. *Clinical Orthopaedics and Related Research,* 1973, 93, 239. (5) Castells, S. *et al.* Effects of porcine calcitonin in osteogenesis imperfecta tarda. *Journal of Pediatrics,* 1972, 80, 757.

36-CF-5 RELATIVE EFFICIENCY IN DIFFERENT METHODS OF FLUORIDE APPLICATION

Investigator(s): Kuo Hwa Lu, Ph.D., Professor of Biostatistics; and Donald R. Porter, D.D.S., Professor of Pedodontics, Health Sciences Center, University of Oregon, 611 S.W. Campus Drive, Portland, Oregon 97201.
Purpose: To study the relative efficiencies of various methods of fluoride applications as preventive measures against tooth decay among children.
Subjects: 1,200 school children, ages 11 to 13, living in areas without water fluoridation.
Methods: Annual dental examinations will be conducted at each school by teams of examiners. Examinations will be done the first year and repeated each treatment year. A follow-up examination will be conducted 1 year after treatment has been discontinued. The treatment procedures consist of a dental tray phase and a rinse phase. During the dental tray phase, dental assistants will supervise a 5-minute self-application of acidulated-phosphate fluoride gel contained in custom fitted trays for 20 students at a time. This procedure, which removes students from the classroom 30 minutes daily over 10 days, will only occur in the first year of the study. During the rinse phase, students will

participate in a daily mouth rinse under the supervision of a teacher, aide, or other school personnel. This procedure will occur daily for the remaining 2 years of the study. Those students in the control (placebo) groups will be offered professionally applied topical fluoride treatment at the end of the study period.

Duration: March 1975-December 1979.

Cooperating group(s): National Institute of Dental Research, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-CF-6 STRONTIUM AND DENTAL CARIES

Investigator(s): Martin E. J. Curzon, M.S., L.D.S.R.C.S., A/Chairman, Department of Caries Research, Eastman Dental Center, 800 Main Street East, Rochester, New York 14605.

Purpose: To determine the effect of caries prevalence of varying concentrations of strontium in communal water supplies with optimum fluoride; to relate caries prevalence with strontium levels in drinking water, whole and surface human enamel and plaque; and to assess the ability of enamel with varying concentrations of strontium to resist demineralization and dissolution.

Subjects: Boys and girls, ages 12 to 14, who are residents in seven Wisconsin communities that have varying levels of strontium in the water supply and similar levels of fluoride.

Methods: The investigation will be carried out through an epidemiologic survey. Chemical analysis of whole and surface enamel, plaque, and communal water supplies for strontium and fluoride will be carried out by in-house chemistry. Methods will include atomic absorption, spectrophotometry for strontium, ion selective electrode and hydrogen fluoride diffusion for fluoride. The data will be evaluated by analysis of variance.

Duration: July 1975-June 1976.

Cooperating group(s): National Institute of Dental Research, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-CG-1 THE RELATIONSHIP OF PERCEPTUAL, COGNITIVE, AND MOTOR BEHAVIOR IN YOUNG CHILDREN WITH SPECIALIZED TRAINING

Investigator(s): Marguerite A. Clifton, Ed.D., Professor and Head, Department of Physical Education for Women; and Kathryn Black, Ph.D., Associate Professor, Psychological Sciences, Purdue University, West Lafayette, Indiana 47907.

Purpose: To determine what effects, if any, occur following a structured experience in developmental movement during the preschool period.

Subjects: An experimental group of 35 boys and girls, ages 6 to 8.11; and a matched control group. All children between ages 3 and 5.6 had completed at least four successive semesters in a special preschool program designed to enhance development in the perceptual, motor, and cognitive domains.

Methods: The research design involves two data collection periods during which (1) the McCarthy Scale of Development and the ETS Conservation Scale are administered, and (2) motor skills dynamic stability, overhand object projection, arm-leg coordination accuracy, eye-hand accuracy, and static stability are tested. A preliminary scale will be used to assess subjects' interests in different types of physical activity. The parents'

interests and encouragements of their children's involvement in physical activity will be assessed through the Parental Concern and Motor Development Attitude Inventory.
Duration: October 1975-June 1976.

36-CG-2 A NATURALISTIC STUDY OF HYPERACTIVE CHILDREN

Investigator(s): Ben J. Williams, Ph.D.; John R. Vincent, Ph.D.; and Tom Elrod, Ph.D., Department of Psychiatry, Baylor College of Medicine, Houston, Texas 77025.
Purpose: To develop a videotape methodology for measuring the motor and social aspects of hyperactive behavior in the public school classroom.
Subjects: Hyperactive first graders in public schools.
Methods: The goal of the first year of this 3-year research project will be to develop two objective measures of hyperactivity: motor behavior and social behavior. A videotape technology will be developed to measure hyperactivity in the classroom and in the home. The project will be aimed primarily at the training of a staff to analyze motion and social interaction from the videotapes, the development of equipment systems to rapidly and efficiently code data from the videotapes, and to obtain a general and systematic analysis of what constitutes hyperactivity in the child's natural environment. Interaction of hyperactives and controls will be scored in the laboratory. Motor activity will be scored using national analysis techniques developed at NASA in Houston. During the second the third years, the most effective treatment techniques will be evaluated: (1) either Ritalin (methylphenidate) or Mellaril (thioridazine) or (2) behavior modification.
Duration: June 1975-June 1977.
Cooperating group(s): Texas Children's Hospital; National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.

36-CH-1 PHONETIC CONTEXT AS A DEVELOPMENTAL AND THERAPEUTIC CONCEPT FOR MANAGEMENT OF ARTICULATION DISORDERS: PHASE I

Investigator(s): Ida J. Stockman, Ph.D., Project Director; and Lillie B. Wharton, Research Assistant, Center for the Study of Handicapped Children and Youth, Howard University, 2935 Upton Street, N.W., Washington, D. C. 20008; and Eugene McDonald, Research Professor, Department of Speech Pathology, Pennsylvania State University, University Park, Pennsylvania 16802.
Purpose: To obtain normal developmental data on children's articulation of /s/, /k/, and /r/ consonants in various phonetic contexts patterned according to a specific classification scheme.
Subjects: A minimum of 120 normal, healthy children, 20 at each level, ages 2 to 8, drawn from day care centers and elementary schools in urban Washington, D. C. The children will be divided into groups based on age and will be similarly distributed by socioeconomic status, language, background, sex ratio, and by the number of subjects at each half year age level.
Methods: Screening procedures are used to select normal, healthy children who exhibit a range of error inconsistency on /s/, /k/, and /r/ consonants. Spontaneous speech samples and imitative responses to tape recorded control stimuli (nonsense bisyllables) elicited from subjects will be analyzed by descriptive and multivariant analysis procedures. Testing procedures are being used to minimize systematic examiner and subject

response bias.
Duration: July 1975-June 1977.
Cooperating group(s): National Child Day Care Association; District of Columbia Public Schools; Office of Human Development, U. S. Department of Health, Education, and Welfare.

36-CH-2 PHONETIC CONTEXT AS A DEVELOPMENTAL AND THERAPEUTIC CONCEPT FOR MANAGEMENT OF ARTICULATION DISORDERS: PHASE II

Investigator(s): Ida J. Stockman, Ph.D., Project Director; and Lillie B. Wharton, Research Assistant, Center for the Study of Handicapped Children and Youth, Howard University, 2935 Upton Street, N.W., Washington, D. C. 20008; and Eugene McDonald, Research Professor, Department of Speech Pathology, Pennsylvania State University, University Park, Pennsylvania 16802.
Purpose: To determine whether the application of context developmental features to selection of stimuli for training will make a difference in articulation therapy.
Subjects: 24 first grade defective articulators with no prior therapy contact and no obvious structural, motor, sensory, or specific learning difficulty. Four matched subject pairs will be selected for each of three target consonants under study. One subject from each pair will be randomly assigned to the experimental therapy.
Methods: Control and experimental group therapy programs will be administered to the children, who, prior to therapy, are similarly defective on target sounds and matched on other releveant variables. Procedures will be used to minimize sources of systematic bias specific to the therapist, training programs' content and administration, and method of evaluating subjects' performance in the two groups. Several measures of articulatory performance will be used to compare the two groups during and after therapy to determine whether deviant articulation is remediated fastest and sustained longest when therapy incorporates a systematic and developmentally based scheme to select stimuli for production practice.
Duration: July 1975-June 1977.
Cooperating group(s): National Child Day Care Association; District of Columbia Public Schools; Office of Human Development, U. S. Department of Health, Education, and Welfare.

Intellectual

36-DA-1 ATTENTION TO STIMULUS PRESENTATION MODE

Investigator(s): Ira B. Perelle, Ph.D., Professor, Department of Psychology, State University of New York, Purchase, New York 10577.
Purpose: To determine presentation mode preference for verbal material stimuli for children of various ages.
Subjects: 1,000 children, ages 7 to 17, equally divided by sex, primarily middle class,

but not selected as such.
Methods: The primary research instrument is a motion picture film with three variations. Stimuli presented in the auditory mode are slightly different from those presented in the visual mode, but both are equally appropriate. Children are queried after viewing the film.
Findings: Children below age 12.5 prefer auditory stimulus presentation mode significantly more than visual. This reverses over age 12.5.
Duration: 1973-1978.

36-DB-1 REFLECTION-IMPULSIVITY/COGNITIVE EFFICIENCY: AN INTEGRATED MODEL

Investigator(s): Neil J. Salkind, Ph.D., Professor; and John C. Wright, Ph.D., Assistant Professor, Department of Psychology, University of Kansas, Lawrence, Kansas 66045.
Purpose: To develop and validate a new model of cognitive tempo consisting of two orthogonal dimensions: impulsivity and efficiency.
Subjects: 93 fourth graders (44 males and 49 females) selected from a rural Kansas elementary school.
Methods: The research design involves the administration of the Matching Familiar Figures Test, the Primary Mental Abilities Test, and the Early School Personality Questionnaire.
Findings: Cognitive tempo can be expressed as a two dimensional domain of efficiency (low and high) and impulsivity (reflective and impulsive). The use of the present model allows the assignment of continuous values rather than discrete classifications.
Duration: September 1974-September 1976.

36-DB-2 CHILDREN'S CONCEPTIONS OF BEHAVIOR DISORDERS

Investigator(s): Elizabeth Maas, M.A., Department of Psychology, University of British Columbia, Vancouver, British Columbia, Canada; and Jeanne Marecek, Ph.D., Assistant Professor, Department of Psychology, Swarthmore College, Swarthmore, Pennsylvania 19081.
Purpose: To investigate children's understanding of disordered behavior; and to relate developmental changes in children's understanding to developmental changes in cognitive structures and to the child's increasing experience with the patterns of explanation prevalent in the culture.
Subjects: 60 white, middle class children attending a suburban school. Ten boys and 10 girls from each of grades 2, 4, and 6 were selected at random from the class lists. Mean ages of the three groups were 7.3, 9.6, and 11.5.
Methods: Parental permission was secured for the children's participation in the project. Children were interviewed individually. Brief stories, describing a person whose behavior evidenced a psychological disorder, were read aloud by the experimenter. There were three stories concerning the following types of behavior pathology: avoidance of others, turning against others, and turning against self. The anecdotes did not identify the age or sex of the characters. Following each story, the child was questioned about the character. Verbatim answers were recorded and later scored by two judges working independently. Results were analyzed by chi-square and ANOVA.
Findings: Consistent age-related changes appeared in the children's conceptions of the origins of disordered behavior; their beliefs about the character's control over the behavior; and their understanding of ways to change the behavior. In addition, the

attribution of negative personality traits to the character was affected by the child's age and sex and the type of behavior exhibited.
Duration: 1972-completed.
Publications: Copies of the extended report are available from Dr. Marecek.

36-DB-3 AN INVESTIGATION OF CEREBRAL LATERAL FUNCTIONING AND THE EEG

Investigator(s): David R. Metcalf, M.D., Associate Professor, Department of Psychiatry, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver, Colorado 80220.
Purpose: To develop a methodology for studying cognitive processes and cerebral lateral functions in relation to individual cognitive styles and age, in view of apparently significant agreement between cognitive psychologists and neurophysiologists respecting the readiness of young children for certain learning tasks.
Subjects: 12 pilot study subjects and 30 complete subjects, mostly young adult volunteers. (Because of difficulties in testing children while establishing technique and methodology, attention was focused on young adults. After refinement of the tools, children will be used as subjects in further studies.)
Methods: Four test batteries were developed and refined in this study: (1) adult cognitive battery, (2) adult EEG battery, (3) children's cognitive battery, and (4) children's EEG battery. Subjects were given group cognitive tests 4 weeks prior to EEG testing and individual cognitive tests at the time of EEG testing. A resting EEG was obtained for 10 minutes before the laterally cognitive testing. Start and stop times for each cognitive task and for the rest period were logged, and activation of right and left brain hemispheres was plotted. Input data were filtered with bandpass filters in order to evaluate relative EEG activation as indicated by the power and bandwidth of an activated hemisphere. The significance of power and bandwidth shifts are to be determined by numerical analyses (autoregression analysis and analysis of variance).
Findings: Among both pilot and complete subjects there was no consistent use of one or another hemisphere for any task. Most subjects oscillated between left and right hemisphere activation during the performance of assigned cognitive tasks, and occasionally strong shifts from one hemisphere to the other were shown in relation to cognitive tasks. For a 13-year old subject who had outgrown a mild dyslexia, the usual oscillation of dominance activity during task performance was lacking, and there was a failure to shift hemisphere-dominance in relation to task.
Duration: July 1973-completed.
Cooperating group(s): Community Services Administration, Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare.
Publications: A synopsis of the study is available free from Hewitt Research Foundation, P. O. Box 179, University Station, Berrien Springs, Michigan 49104.

36-DB-4 ELICITING COVERT MENTAL OPERATIONS, SKILLS, AND CONCEPTS IN BILINGUAL YOUNG CHILDREN

Investigator(s): John W. Hollomon, Ph.D., Associate Professor, Department of Early Childhood Education, University of Texas at San Antonio, San Antonio, Texas 78285; Iris Longoria-Whitney, M.A., Early Childhood Bilingual Teacher, 100 Lorenz, Apt. 209, San Antonio, Texas 78209; and Carmen Cortez, B.S., Bilingual Curriculum Specialist, 607 Glamis, San Antonio, Texas 78233.

Purpose: To design and test an information-eliciting question instrument to determine whether the structures (in the verbal responses of young Mexican American, bilingual children entering school) would reveal the covert mental operations, concepts, and oral language skills elicited.
Subjects: Three kindergartners, three first graders, including three boys and three girls, ages 6 to 7, used as their own controls.
Methods: The investigation was designed to study in depth such problems as the relationship between language and thought, language interference, and fluency. Subjects were selected by their respective teachers. Data were collected through an interviewing technique and analyzed through a phrase structure technique. An instrument was administered that consisted of 56 parallel questions in both English and Spanish. An ad hoc analysis was made to determine those questions that either failed to elicit any verbal information or evoked dissonant information. A bilingual rating was assigned to each subject.
Findings: The instrument accounts for the language and thought components it elicited. It revealed the match or mismatch between the language and thought processes already acquired by the subjects and those required for academic success. The young bilingual child entering school faces a combination of complex problems, including the capacity to consciously attend to a convention, decode, re-encode and verbally respond to it, which requires the capacity for both inference and reference, and the ability to engage in the joint activity of conscious operational thinking, conceptualizing, and languaging.
Duration: March 1975-completed.

36-DB-5 CONSISTENCY OF PARENTAL DISCIPLINE IN CHILDHOOD AND THE DEVELOPMENT OF COGNITIVE STYLES

Investigator(s): Keith A. Jones, M.S., Doctoral Student, Department of Graduate Psychiatry, Social Psychiatric Research Program, Medical College of Pennsylvania, 123 Ann Preston Hall, 3300 Henny Avenue, Philadelphia, Pennsylvania 19129.
Purpose: To relate various dimensions of discipline consistency, as factors in the achievement of object constancy and permanency (as defined by Rapaport and Piaget), to the development of cognitive-affective and cognitive-analytic styles in the individual child.
Subjects: Two samples were used: one randomized sample in three groups of 50 each with subjects, ages 3 to 5, 5 to 7, and 7 to 9; and a smaller selected sample for directed interaction and supervised play.
Methods: The randomized sample will be rated for individual ability to differentiate and to group objects according to specific instructions: logical and psychological evaluation of causality, susceptibility to interfering stimulus, over- or underinclusion of sets, and appropriate use of reversibility for conservation. These results will then be related to the various dimensions of discipline consistency. The smaller sample will be used to demonstrate and further study the results of the randomized study.
Duration: Fall 1974-Fall 1976.
Cooperating group(s): Head Start; Southern Association for Children Under Six; Governor's Council of the Commonwealth of Pennsylvania.
Publications: Jones, Keith A. Consistency of parental discipline in childhood and complexity of adult cognitive style. *Perceptual and Motor Skills* (in press).

36-DC-1 INFLUENCES ON LEARNING IN EARLY CHILDHOOD

Investigator(s): Raymond S. Moore, Ed.D., President; Martha Lorenz, Ph.D., Senior Research Associate; Dennis Moore and Ingram F. duPreez, Doctoral Fellows, Hewitt Research Center, P. O. Box 179, University Station, Berrien Springs, Michigan 49104; and T. Joseph Willey, M.D., Assistant Professor of Physiology, School of Medicine, Loma Linda University, Loma Linda, California 92354.

Purpose: To review aspects of research and other literature that indicate demonstrable influences on learning in early childhood.

Subjects: From approximately 7,000 research studies and papers screened, more than 1,000 were analyzed in depth and about 685 were included in this review.

Methods: A systematic search of published and unpublished sources for research studies, reports, and theories pertaining to child development, learning, and early childhood education (ECE) in general yielded items representing multiple aspects of the ECE problem. These were organized and integrated around the common denominator of influences on learning in early childhood. Although many questions relating to child development are yet to be answered convincingly within the various disciplines, synergic effects were often found to operate in this multidisciplinary study that provide significant evidence not directly available from within any one of the several disciplines alone. Before publication, the manuscript was critically read and suggestions were made by qualified professionals in the various disciplines related to child development and education.

Findings: Some conclusions, taken from the researcher's synopsis (see Publications below), are (1) Young children's motivation for learning is influenced more by the attitudes of parents than by socioeconomic status or material advantages. (2) Contrary to common assumptions about the child's need for special stimulating experiences, continual sensory stimulation reduces arousal level, produces a long-range dulling effect, and inhibits learning. (3) While precise points cannot be set that define a brain as fit or unfit for learning, the perceptual readiness (hearing, vision, intersensory perception, etc.) which is important for ease and quality of learning approaches maturity about the 8th or 9th year. (4) When school entrance is delayed until children begin to think from cause to effect and reason abstractly with consistency, unusually rapid learning progress is possible if lock step limitations are not imposed; i.e., a child is not required to go through all grades and all learning exercises regardless of what he has learned in earlier years. (5) So-called "stimulation" or special training, within genetic or biological limits, may induce learning at younger than usual ages; but such learning is likely to be limited in scope, to lack permanence, and to be of little benefit to the child in later learning and achievement. (6) Children can learn to read before they have achieved perceptual integration (i.e., the working together of vision, hearing, etc.), but their reading skills are soon lost when pressure is relaxed. The disadvantages of forced early reading with a lack of reading motivation persist throughout childhood and perhaps later. (7) IQ gains achieved by preschoolers appear to have questionable authenticity, since these gains are not repeated in the grade school years; rather a steady decline in IQ has been noted when preschoolers enter elementary school so that the positive effects of preschool are insignificant after a year or two. (8) There is no positive evidence that the normal child becomes better socialized by early schooling. In fact, evidence appears to point toward the older child at school entrance as the one with greater stability, better sociability, leadership, and better attitudes toward school.

Duration: July 1973-completed.

Cooperating group(s): Community Services Administration, Social Rehabilitation Service, U. S. Department of Health, Education, and Welfare; Educational Resources Information

Centers, National Institute of Education, Education Division, U. S. Department of Health, Education, and Welfare.
Publications: Manuscripts are available at $12 and a synopsis is available free from the Hewitt Research Foundation, P. O. Box 179, University Station, Berrien Springs, Michigan 49104.

36-DD-1 WISC AND WISC-R: COMPARISON OF IQ RATINGS

Investigator(s): Benjamin Goodnick, Ph.D., Psychologist, Philadelphia School District, 21st and Parkway, Philadelphia, Pennsylvania 19103.
Purpose: To compare the relative ratings of the Wechsler Intelligence Scale for Children (WISC) and WISC-R as to their distribution of mental scores at different levels.
Subjects: Utilization of existing, extensive files of pupils having had two or more re-evaluations on one or both of the tests.
Methods: The research design involves two comparable groups: one which is given the Wechsler Intelligence Scale for Children twice and one which is given the Wechsler Intelligence Scale for Children and the Wechsler Intelligence Scale for Children-R. Modal measure, distributions, and correlations will be utilized.
Findings: Data indicate that WISC-R may lower IQ ratings, especially at the lower end of the spectrum.
Duration: 1975-continuing.

36-DE-1 CHILDREN'S CONCEPTUAL LEARNING AND DEVELOPMENT

Investigator(s): Herbert J. Klausmeier, Ed.D., V.A.C. Henmon Professor of Educational Psychology, 1086 Educational Sciences Building, University of Wisconsin, Madison, Wisconsin 53706.
Purpose: To chart the conceptual development of children, ages 4 to 18, in their mastery and ability to use concepts of the sort typically found in school curricula.
Subjects: 50 boys and 50 girls in each of four grades: kindergarten, 3, 6, and 9.
Methods: The longitudinal design, incorporating two control groups to determine effects of cohort and retesting, requires that data are gathered systematically at 1-year intervals from 1973 through 1976. Assessment of conceptual development is based on four specially constructed batteries: CLD Assessment Series I, equilateral triangle; II, cutting tool; III, noun; and IV, tree. Data, treated cross-sectionally each year as well as longitudinally, are analyzed statistically and descriptively in order to evaluate specific predictions derived from the CLD model.
Findings: Evidence strongly supports the predicted invariant sequence of concept attainment and the predicted relation between level of concept mastery and ability to use the concept in solving problems, understanding principles, and taxonomical relationships.
Duration: 1973-1976.
Cooperating group(s): Wisconsin Research and Development Center for Cognitive Learning; National Institute of Education, Education Division, U. S. Department of Health, Education, and Welfare.
Publications: Wisconsin Research and Development Center Technical Reports 287 and 288 are available from the investigator.

36-DF-1 DISCRIMINATION OF RELATIVE NUMEROSITY IN CHILDREN UNDER SEVEN

Investigator(s): John H. Durnin, Ph.D., Assistant Professor; and Barbara Strogatz, M.S., Graduate Student, Department of Education, Villanova University, Villanova, Pennsylvania 19085.

Purpose: To see if children 6 years of age and under can discriminate sets on the basis of inequality; and to see if the number of largest set selections will decrease when the number of elements in all the sets are increased.

Subjects: 27 girls and 23 boys, ages 2 to 6, chosen randomly from public and private nursery schools in Devon, Pennsylvania.

Methods: The subjects were divided into five groups of 10 according to age: 2-year olds, 3-year olds, 4-year olds, 5-year olds, and 6-year olds. The presentation consisted of three plates of colored M&M candies: one plate had two candies spaced two inches apart; a second plate had three candies spaced one-quarter inch apart; and a third plate had two candies touching. The plates were placed in a triangular arrangement with each plate a vertex. The child was asked to choose the plate of candy he wanted and was given all the candy on the plate chosen. He was then asked why he chose the one he did. To test the second objective, numbers were increased on the second trial to three and five.

Findings: Significant ($p < .01$) proportions of 3-, 4-, 5-, and 6-year olds selected the largest set. With regard to the second objective, only with 4-year olds was there a significant ($p < .05$) drop (10 to 6) in number responses. Of the 3-, 5-, and 6-year olds, 92 percent (24 out of 26) who selected the largest set on the first trial also selected the largest set on the second trial.

Duration: January 1975-December 1975.

Publications: A paper is available from Dr. Durnin.

36-DF-2 DEVELOPMENT OF SOCIAL, PHYSICAL, AND ABSTRACT REASONING DURING ADOLESCENCE

Investigator(s): Daniel P. Keating, Ph.D., Assistant Professor, Institute of Child Development, University of Minnesota, Minneapolis, Minnesota 55455.

Purpose: To validate measures of adolescents' social, physical, and abstract reasoning; to examine the relationships between abilities in these areas; and to study their interdependent developmental patterns.

Subjects: 90 boys and 90 girls, ages 11 to 16, mainly Caucasians from the middle and upper middle classes.

Methods: The design of this investigation involves the use of a Campbell-Fiske multimethod design to validate the Piagetian measures of formal reasoning (physical) and Selman's interpersonal reasoning dilemmas (social). Evaluation methods are group, paper-and-pencil, and timed vs. individual untimed clinical interview. With validational evidence the development in different areas will be examined using correlational methods.

Duration: January 1975-September 1976.

36-DH-1 PROCESSING STRATEGIES IN SENTENCE COMPREHENSION

Investigator(s): Jill T. Wannemacher, Ph.D., Department of Psychology, Bryn Mawr College, Bryn Mawr, Pennsylvania 19010.
Purpose: To determine the encoding format and comparison strategies used by children in sentence verification tasks; to determine what part of the comprehension process is influenced by syntactic and semantic variables (such as sentence voice and semantic reversibility); and to investigate developmental differences in processing strategies.
Subjects: Children from kindergarten to grade 6; and college students, both sexes, 10 to 15 subjects per experiment.
Methods: Reaction time in picture-sentence matching tasks will serve as the index of comprehension, and specific studies have been designed to delineate (1) the stages in the processing sequence, and (2) the nature of the operations performed within stages. All of the studies will use a novel procedure, called the "mismatch" technique, which involves varying the location of the mismatch or difference between a sentence and a picture, and comparing the latencies of subjects' *same-different* responses as a function of whether the mismatch occurred in the sentence subject, verb, or object. ANOVA t-tests will be used to determine differences between treatment groups.
Duration: Fall 1974-Summer 1976.
Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-DH-2 MODELS FOR THE BILINGUAL INSTRUCTION OF IMMIGRANT CHILDREN IN SWEDEN

Investigator(s): Ingvar Johannesson, Professor, Institute of Education, Lund University, Fack 220 07, Lund 7, Sweden.
Purpose: To achieve functional bilingualism for immigrant children in Sweden so that they are able to understand and speak two languages, to participate in two cultures, and will be able to choose freely between living and working in two countries.
Subjects: Finnish immigrant children, ages 5 and 6, who live in Sweden.
Methods: The research consists of three parts: bilingual preschool activities, bilingual comprehensive school instruction, and study activities for parents of the pupils. It is a longitudinal study of four groups of Finnish children. Each group starts nursery school at age 5 and is followed for 5 years to the end of Grade 3 of comprehensive school. Two years are spent at the preschool level and 3 years at the junior level. The development of each child will be followed in detail. At the same time, cross-sectional comparisons are planned with larger groups of children, particularly at the end of Grade 3. The groups of children involved in the project will then be compared with children of the same age in Sweden and Finland with respect to school achievement and linguistic and general development. This evaluation will be conducted on an interdisciplinary basis.
Duration: 1972-continuing.

36-DH-3 CROSS-LINGUISTIC STUDY OF LANGUAGE DEVELOPMENT IN CHILDREN

Investigator(s): Dan I. Slobin, Ph.D., Professor, Department of Psychology, University of California at Berkeley, Berkeley, California 94720.
Purpose: To discover universal strategies for the acquisition of syntactic structures; to determine universal sequences of the development of semantic intentions; and to define linguistic complexity in ontogenetic terms.
Subjects: In each of four countries (Turkey, Yugoslavia, Italy, and the United States), a sample of 48 children, three boys and three girls, at each of the following ages: 2.0, 2.4, 2.8, 3.0, 3.4, 3.8, 4.0, and 4.4.
Methods: The research entails a collection of natural conversation and elicited data on a variety of measures of speech production and comprehension, short-term memory, Piagetian tasks of object ordering and projective straight line, and sociocultural background. Each subject will be studied at two points, 4 months apart for 10 to 15 hours each time. Tape recorded speech will be coded for syntax, morphology, and underlying semantics (on a generative semantics model, using a specially developed scheme for the coding of semantic intentions).
Duration: 1972-1977.
Cooperating group(s): Grant Foundation; Istituto di Psicologia del CNR, Rome, Italy; Italian-American Scientific Exchange.

36-DH-5 DETERMINERS AND REINFORCERS OF VERBAL BEHAVIOR OF YOUNG CHILDREN AND THEIR MOTHERS

Investigator(s): Ernst L. Moerk, Ph.D., Professor, Department of Psychology, California State University, Fresno, California 93740.
Purpose: To investigate the motivational phenomena involved in first language acquisition and their relationship to specific contents of instruction.
Subjects: 10 boys and 10 girls, ages 1.9 to 5.0, who have mothers of middle class and lower middle class backgrounds.
Methods: The investigation will involve natural observation with manual and automatic data collection. The design will be cross-sectional with age of the children and their

36-DH-4 SEMANTIC DISTINCTIONS IN CHILDREN'S LANGUAGE

Investigator(s): Eve V. Clark, Ph.D., Assistant Professor, Department of Linguistics, Stanford University, Stanford, California 94305.
Purpose: To determine when children acquire certain distinctions between word meanings; and to discover the strategies they employ at each stage in the acquisition process.
Subjects: Equal numbers of boys and girls, ages 1½ to 9. All the children are native speakers of English.
Methods: Comprehension tasks. Detailed analyses of errors.
Findings: Acquisition of word meaning sometimes takes a long time, and fairly complex meanings may not be worked out until age 9 or later. Children go through a reliable series of stages, though, as they apply more and more sophisticated strategies to the comprehension tasks they are given. Several of the findings have since been replicated by other investigators.
Duration: September 1971-August 1975.
Cooperating group(s): National Science Foundation.

language level as the independent variables. Motivational phenomena will be categorized according to their functional and interactional aspects and frequency data for those categories will be established. The data will be related to those categories established, to the two independent variables, and to contents of instruction.

Findings: The frequency of motivational variables remains unchanged, while the mothers' intentional instruction in specific skills declines with age and language level. Patterns of motivating children and teaching styles of mothers have become apparent.

Duration: Spring 1975-Spring 1976.

36-DH-6 LANGUAGE ACQUISITION IN NONSPEAKING CHILDREN

Investigator(s): Sally Rogow, Ed.D., Associate Professor, Department of Special Education, Scarfe Annex #1, University of British Columbia, Vancouver, British Columbia, Canada V6T 1W5.

Purpose: To determine language competence: acquisition of syntax and acquisition of meaning in children who do not communicate with speech.

Subjects: 12 visually impaired children, ages 6 to 16: five girls and seven boys. Four girls and four boys have no speech at all. Three children can read.

Methods: This is a longitudinal study in which data are collected through weekly 4-hour sessions with each child. Children's responses to a variety of language stimulation techniques are considered. Language comprehension is studied with instruments such as the Miller Yoder Comprehension Test, Tina Bangs' Developmental Language Scale, Elicited Imitation Tests, and Observational Records.

Findings: The development of speech appears to be a secondary process in children who have acquired language but do not use verbal communication in their interactions.

Duration: September 1974-June 1976.

Publications: (1) Rogow, S. Speech development in the blind multi-impaired child. *Education of the Visually Handicapped,* December 1973, 4, 105-109. (2) Rogow, S. Language acquisition and the blind retarded child. *Education of the Visually Handicapped,* May 1972, 4(2), 36-40.

Personality

36-EA-1 A FOLLOW-UP STUDY OF IMAGINATIVE BEHAVIOR AND OTHER COGNITIVE AND PERSONALITY CHARACTERISTICS OF BLACK CHILDREN WHOSE SOCIODRAMATIC PLAY WAS STUDIED IN 1971

Investigator(s): Penelope Griffing, Ph.D., Assistant Professor, Family Relations and Human Development, School of Home Economics, Ohio State University, Columbus, Ohio 43220; and Susan Sears, Ph.D., Director, Career Education Program, Hilliard Public Schools, Hilliard, Ohio 43026.

Purpose: To investigate the relationship between imagination and cognitive and personality characteristics observed in 1971 in the sociodramatic play of kindergarten and second grade children and these characteristics as manifested among the same children in conceptually related activities 5 years later; and to examine the relationship among imagination, verbal communication skills, and persistence as expressed in a story telling situation.

Subjects: Approximately 180 black fifth and seventh graders, equally divided by sex, from the Columbus, Ohio Public Schools, whose sociodramatic play was studied in 1971. Approximately half of the children come from low socioeconomic status families and half come from middle socioeconomic status families as defined by the Index of Developmental Studies, New York Medical College.

Methods: Procedures involve children telling stories about pictures in an informal game-like situation. Each child will tell a story by himself and with each of three other children, one of the same sex and two of the opposite sex. Variables studied will be imagination, persistence, social interaction, and verbal communication. Each child will be interviewed about play activities in which he now likes to engage (games which he likes to play when alone and games which he likes to play with friends) and about day dreaming and imaginary companions. Imagination in story telling will be measured by means of the Weisskopf Transcendence Scale (1950). The scale scores responses to pictures in terms of the extent to which they include elements (such as characters, objects, time, atmosphere, etc.) which go beyond what is actually presented. The play interview will be based on the Imaginative Predisposition Interview developed by Singer and co-workers (1973). Longitudinal relationships between imagination, persistence, social interaction, and verbal communication as expressed in the story telling situation and these same variables as expressed in the original sociodramatic play research will be examined by means of univariate and multivariate correlational techniques. The same procedures will be followed related to imagination as measured by the interview and imagination as expressed earlier in play.

Duration: 1976-1977.

Cooperating group(s): Columbus, Ohio Public Schools.

36-EB-1 SELF-CONCEPT, ANXIETY, AND NEED FOR ACHIEVEMENT OF NON-DEVIANT AND DEVIANT ADOLESCENTS

Investigator(s): Preeja Dhunma, Ed.D., Bangkok Institute for Child Study, Sukhumvit 23, Bangkok-10 Thailand.

Purpose: To investigate the difference in, and the relationships among, self-concept, anxiety, and need for achievement of deviant and nondeviant adolescents.

Subjects: 210 adolescents (70 nondeviant boys and 35 nondeviant girls; 70 deviant boys and 35 deviant girls) selected purposively from five private secondary schools in metropolitan Bangkok.

Methods: Each deviant student had been identified and selected by classroom or guidance teachers in accordance with given criteria. Dominant characteristics that served to distinguish the deviant from the nondeviant were the following acts on the part of the deviant: (1) dressing improperly, (2) playing truant, (3) using obscene language, (4) disinterest in school lessons, (5) dishonesty, (6) causing trouble either in or out of school, and (7) behaving in a manner that teachers considered improper or socially deviant. Tests on actual self, ideal self, anxiety, and need for achievement were administered to all subjects. The statistical operations applied to the data were z-test and product moment correlation.

Findings: Results indicated that the nondeviant group scored significantly higher than the deviant group on self-concept and need for achievement but lower on anxiety, and revealed no sex difference in self-concept and need for achievement. Negative correlation between anxiety and actual self and positive correlation between anxiety and ideal self were found in both the nondeviant and the deviant groups. However, there was no linear relationship as such among need for achievement, self-concept, and anxiety of

the adolescents in this study.
Duration: June 1971-completed.

36-EB-2 THE SELF-IMAGE OF ADOLESCENTS

Investigator(s): Daniel Offer, M.D., Co-Chairman, Department of Psychiatry, Michael Reese Hospital and Medical Center, 29th Street and Ellis Avenue, Chicago, Illinois 60616.
Purpose: To study the development of the self-system during the adolescent process; and to compare and contrast differences in the process among normal, delinquent, and psychiatrically disturbed children.
Subjects: 10,000 male and female adolescents. The subjects cover the range of the middle class (including minority groups). Two samples are from abroad (Australia and Ireland).
Methods: The Offer Self-Image Questionnaire for Adolescents will be administered. It covers 11 areas: impulse control, emotional tone, body and self-image, social attitudes, morals, sexual attitudes, family relations, external mastery, vocational and educational goals, psychopathology, and superior adjustment. The questionnaire will be administered to all social classes in the United States, Ireland, Australia, Israel, Mexico, and India. Statistics will be factor analyzed.
Findings: Younger adolescents (ages 13 to 15) have a poorer self-image than older adolescents (ages 16 to 18), and females have more problems than males. Delinquents and disturbed adolescents have more problems than normal adolescents.
Duration: 1972-1977.
Cooperating group(s): Illinois State Psychiatric Institute.
Publications: Offer, Daniel and Howard, Kenneth I. An empirical analysis of the Offer Self-Image Questionnaire for Adolescents. *Archives of General Psychiatry*, October 1972, 27, 529-533. The questionnaire and a manual are available from the investigator.

36-EC-1 CHILDREN'S IDEOLOGY AND LIFE PHILOSOPHY

Investigator(s): Bengt-Olov Ljung, Professor; Sven G. Hartman, Ph.D.; Sten Pettersson, B.A.; and Gunilla Dahlberg, Psychologist, Department of Educational and Psychological Research, Stockholm School of Education, Stockholm, Sweden.
Purpose: To study prerequisites (in terms of developmental and educational psychology) related to helping children understand questions of belief and ideology, in order to stimulate their personal development.
Subjects: Preschool and junior level school children in Sweden.
Methods: The major portion of the research will investigate, in terms of developmental psychology, the ability of children to encounter various questions of belief ideology. The first and perhaps most important question is: What do children wonder about? By studying this question, the investigators hope to shed light on a number of important questions following in its wake. Do children and adults attach different degrees of importance to different types of problems? Are the questions that can give rise to conflicts among adults equally delicate where children are concerned? How commonly do various questions of belief and ideology actually occur in the child's own world? A questionnaire was sent to approximately 1,500 infant teachers, junior level teachers, and recreation leaders to obtain information concerning the difficulties which may be connected with the treatment of questions concerning ethics, beliefs, and ideologies at preschool and junior levels.

Goals applying to activities in nursery school, at junior level and in leisure centers, partly or entirely concerned with questions of belief and ethics will be analyzed. Concepts such as belief, value, religion, ideology, policy, and view of society will be defined and related to the developmental psychology studies and the educational development work that will be taking place under the project. Principles and guidelines of teaching methodology will be developed that relate to the manner in which questions of belief and values are to be treated at the different age levels.

Duration: 1973-1978.

Publications: A report (with an English summary) on the teacher questionnaire is available from the investigators.

36-EC-2 MONITORING THE FUTURE: A CONTINUING STUDY OF THE LIFESTYLES AND VALUES OF YOUTH

Investigator(s): Lloyd D. Johnston, Ph.D., Study Director; and Jerald G. Bachman, Ph.D., Program Director, 4007 Institute for Social Research, University of Michigan, Box 1248, Ann Arbor, Michigan 48106.

Purpose: To assess the changing lifestyles, attitudes, and behaviors of American youth on a continuing yearly basis.

Subjects: 20,000 male and female high school seniors, ages 17 to 19, from a national sample of 130 high schools.

Methods: This study design consists of a sample of each class of seniors (beginning with the class of 1975) completing a questionnaire. In the study, attention is given to such issues as drugs, work, education, achievement, ecology, intergroup and interpersonal relations, social justice, and the functioning of many major institutions. The questionnaire is set up to distinguish four kinds of trends: (1) changes from one graduating class to another, (2) life cycle or maturational changes which show up consistently for all graduating classes, (3) changes in particular years reflected across all age groups (secular trends), and (4) changes linked to different types of environments, such as college, military service, trade school or employment. Follow-up questionnaire data will be collected for 4 years after graduation to assess the impacts of post-high school experiences in college and/or work. Initial analysis will emphasize the monitoring of variables over a period of years and assessing levels and changes on critical dimensions. Analysis of relationships among variables will also be emphasized.

Duration: 1974-1979.

Cooperating group(s): White House Special Action Office for Drug Abuse Prevention; National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.

36-EC-3 AN EMOTION-ATTRIBUTION APPROACH TO MORAL BEHAVIOR: INTERFACING COGNITIVE AND AVOIDANCE THEORIES OF MORAL DEVELOPMENT

Investigator(s): Richard A. Dienstbier, Ph.D., Associate Professor and Chairman, Psychology Department, University of Nebraska, Lincoln, Nebraska 68508.

Purpose: To determine if emotion-attribution processes play a significant role in moral

decision making in children and adults; and to determine how easily such attributions are influenced by external information.

Subjects: 12 same sex twins, male and female second graders; and 48 second grade parochial school girls and boys.

Methods: The research is a cooperative project with the University of Vermont and Johnson State College, Vermont. Using a factorial design of subject's sex, experimenter's sex, and a manipulation of shame vs. guilt, subjects were brought singly into an experimental setting and asked to watch a slot car while alone. The slot car jumped the track (the act to be prevented by the child) when the child was not attending. A hidden observer behind a one-way glass observed the child and controlled the toys. The child's discomfort is labelled as shame (because of being found out) or guilt (due to own behavior), and the child is asked to try again, believing that detection is impossible.

Findings: When children are convinced that detection in the second watching session is not possible, they attend far more under guilt attribution conditions than under shame.

Duration: January 1972-January 1978.

Publications: Dienstbier, R. A. An emotion-attribution approach to moral behavior: Interfacing cognitive and avoidance theories of moral development. *Psychological Review* (in press).

36-EC-4 STUDENT-INTEREST FINDER: AN ANALYSIS OF 3RD TO 6TH GRADERS' INTERESTS, LIKES, FEELINGS, AND CONCERNS

Investigator(s): John W. Hollomon, Ph.D., Associate Professor; and Pamela Werton, Ed.D., Assistant Professor, Department of Early Childhood Education, University of Texas at San Antonio, San Antonio, Texas 78285.

Purpose: To collect, analyze, and categorize children's wishes, interests, likes, feelings, and concerns in order to obtain useful information relating to their views of school and away from the school environment; and to determine how these views may be integrated into the emergent curriculum.

Subjects: 200 children: 25 girls and boys in grades 3, 4, 5, and 6. Students were selected from 25 elementary schools to represent both a cross-section of ethnic background and socioeconomic status.

Methods: A Student-Interest Finder instrument was developed and administered to 200 children in 3rd to 6th grades in 25 elementary schools, using the interviewing technique. A set of categories was devised for analyzing the data, which was broken down into subheadings for the placement of answers having common elements. This procedure was used to prepare one comprehensive set of categories that was applied in analyzing all the items for each child's responses and age-grade grouping.

Findings: Most children wished for specific material things; were happier when involved in doing things with people; were saddened by such things as death, disappointment, sickness, fighting, and not being liked. They wanted to learn more about math, language usage, and spelling; preferred the language arts, reading, math, and free choice time. Most children preferred sports and play activities outside the school; disliked discipline, restrictions, and rules; feared fighting and getting into trouble at school; liked to travel; preferred that more recreational equipment be made available at school; and preferred weekends to school days.

Duration: April 1975-July 1976.

36-ED-1 VERBAL ALTERNATIVES TO PRESCHOOLERS' PHYSICAL AGGRESSION

Investigator(s): Lynn Weiss, Ph.D., Mental Health Consultant, Day Care Association of Metropolitan Dallas, 3107 Routh Street, Dallas, Texas 75201; and Marc Sheinbein, Ph.D., Department of Psychology, Medical School, University of Texas, Dallas, Texas 75235.
Purpose: To test a training technique intended to help preschoolers express their aggressive feelings and emotional needs verbally instead of physically to one another.
Subjects: Classrooms from five child care centers were treated as the subjects. Within each classroom, the children ranged in age from 4 to 4 years 11 months. There were approximately equal numbers of boys and girls and the classes were composed of black, white, and Mexican American children from lower socioeconomic families.
Methods: The data were collected by systematic observation in the classrooms. A count of all physical aggressions was made during a specified time period, and a baseline count of the pretreatment level of physical aggression was made for each group. Then the staffs in the four experimental centers were trained in the intervention technique they were to use throughout the study. Three more observations were made over a period of 5 weeks following the initiation of treatment. Four centers were designated as treatment centers and one center served as a control. Two variables were simultaneously considered: (1) help given the children by the teachers to verbalize their aggressive feelings and emotional needs to each other as a substitute for physical aggression (interpersonal verbalization); and (2) time spent by the staff members with the children following an act of physical aggression. Frequency data were obtained from the five centers in the form of counts of physical aggression. Chi-square was used to compare the effects of the two variables following acts of physical aggression. Rates of reduction in the levels of physical aggression between the baseline and final observation were calculated for all centers as was the Test for Significance of a Proportion.
Findings: In the pilot study, all the treatment groups experienced a significantly greater decrease in the level of physical aggression during the treatment period than the control group. The variables of interpersonal verbalization and time failed to indicate any statistically significant difference in the levels of physical aggression between the groups. However, a trend was observed indicating that the groups using the interpersonal verbalization technique were decreasing more rapidly in their levels of physical aggression than the other groups. At the end of the study, the children were beginning to use words to express feelings and needs rather than hitting, kicking, or pushing.
Duration: March 1975-May 1976.

36-EF-1 SITUATIONS THAT LEAD TO ANGER AND ANXIETY

Investigator(s): Norman S. Endler, Ph.D., Professor and Chairman, Psychology Department, York University, 4700 Kule Street, Downsview, Ontario, Canada; and David Magnusson, Ph.D., Professor and Chairman, Psychology Department, University of Stockholm, Box 6706, S-113 85 Stockholm, Sweden.
Purpose: To compare Swedish and Canadian children with respect to the kinds of situations that lead to anger and anxiety.
Subjects: 100 children in each of three age groups: 12-year olds, 15-year olds, and 18-year olds.
Methods: Data will be collected from students in classroom settings from different public and private high schools in the Toronto and Stockholm areas. All students will be

asked to complete a questionnaire asking them to describe three kinds of situations that make them feel angry and what it is about the situation that makes them frightened or angry. A similarity rating and a similarity sorting procedure will be used to describe the dimensionality of the situations. The Canadian and Swedish results will be compared.
Duration: 1974-1976.
Cooperating group(s): Canada Council; Swedish Social Science Research Council.

36-EF-2 CHILDREN'S COMMUNICATION OF PAIN

Investigator(s): Joann M. Eland, M.A., Instructor and Researcher, College of Nursing, University of Iowa, Iowa City, Iowa 52240.
Purpose: To explore the concept of pain in children as they express or do not express it; and to explore the psychological factors that make up a child's reaction to painful experiences.
Subjects: 65 boys and girls, ages 4 to 10, who have been hospitalized for medical or surgical treatment.
Methods: The research design is exploratory in nature. Research instruments and methods of data collection are continually revised. The current data are collected through the use of projective tests and rank ordering of painful experiences. Eventually a tool will be developed to assess pain in the hospitalized 4- to 10-year-old group for staff nurses to use.
Findings: Children apparently can rank order painful experiences, but the ranking is influenced by previous painful experiences. Out of the 25 children admitted for surgical procedures, 13 never received any pain medication and 12 did. The 12 who did received a total of 24 doses of pain medications including 15 doses of tylenol or aspirin. Physicians had ordered pain medication but the nursing staff was not administering them. The problem would appear to be the process of assessment of pain.
Duration: September 1973-continuing.
Cooperating group(s): University of Iowa Hospitals and Clinics.
Publications: (1) Eland, Joann M. and Anderson, Jane M. The experiences of pain in children. In Ada K. Jacox (Ed.), *Pain: A sourcebook for nurses and other health professionals.* Boston: Little, Brown and Company (in press). (2) Eland, Joann M. Nursing responsibilities in the care and treatment of patients with biostimulators. In Ada K. Jacox (Ed.), *Pain: A sourcebook for nurses and other health professionals.* Boston: Little, Brown and Company (in press).

Social

36-FA-1 CREATIVITY, KRENGCHAI, AND LEADERSHIP OF NONDEVIANT AND DEVIANT ADOLESCENTS

Investigator(s): Preeja Dhunma, Ed.D., Bangkok Institute for Child Study, Sukhumvit 23, Bangkok-10, Thailand.
Purpose: To investigate the difference in, and the relationships among, creativity, *krengchai* (when one says something different than what he really means to keep from hurting another's feelings), and leadership of nondeviant and deviant adolescents.
Subjects: 200 adolescents (53 nondeviant boys and 47 nondeviant girls; 53 deviant boys and 47 deviant girls) were selected from six government schools in metropolitan Bangkok.
Methods: Each deviant student had been identified and selected by classroom or guidance

teachers in accordance with the given criteria. Dominant characteristics that served to distinguish the deviant from the nondeviant were the following acts on the part of the deviant: (1) dressing improperly, (2) playing truant, (3) using obscene language, (4) disinterest in school lessons, (5) dishonesty, (6) causing trouble either in or out of school, and (7) behaving in a manner that teachers considered improper or socially deviant. The tests administered to the sample were tests on creativity, krengchai, and leadership. The statistical methods used in the analysis of data were z-test and product moment correlation.

Findings: The nondeviant scored significantly higher on creativity than did the deviant. There were no significant differences in krengchai and leadership between the nondeviant and the deviant. There was no significant difference in creativity of the nondeviant and the deviant boys. The nondeviant girls scored significantly higher on creativity than did the nondeviant boys, the deviant boys, and the deviant girls. The deviant girls scored significantly higher on creativity than did the deviant and the nondeviant boys. The deviant boys scored significantly higher on krengchai than did the nondeviant boys, the nondeviant girls, and the deviant girls. The nondeviant boys, the nondeviant girls, and the deviant girls showed no significant difference in krengchai and leadership. The nondeviant girls scored significantly higher on leadership than did the deviant boys. The nondeviant boys and the deviant boys showed no significant difference in leadership. Creativity was negatively correlated with krengchai but positively correlated with leadership. No correlation was found among creativity, krengchai, and leadership. There was no linear correlation between creativity and krengchai of the nondeviant boys. Creativity and leadership of the nondeviant boys were positively correlated, while creativity and krengchai of the nondeviant girls were negatively correlated. Among the deviant girls, a positive correlation was found between krengchai and leadership as well as between creativity and leadership.

Duration: June 1971-completed.

36-FA-2 PATTERNS OF COMPETENCE IN PRESCHOOL GIRLS: ANTECEDENTS AND CORRELATES

Investigator(s): Rosalind C. Barnett, Ph.D.; Grace K. Baruch, Ph.D.; and Susan S. Dibner, Ph.D., Research Affiliates, Radcliffe Institute, 3 James Street, Cambridge, Massachusetts 02138.

Purpose: To identify patterns of parental variables and preschool environments related to different styles of social and task oriented behaviors in white middle class 4-year-old girls.

Subjects: 120 white, middle class, normal girls, ages 3 years 9 months to 4 years 9 months, who attend preschools.

Methods: Over a 3-month period, trained observers will assess three dimensions of girls' competence: social competence with peers, social competence with adults, and instrumental (task) competence. Instrumental competence refers to behavior that is explorative, goal oriented, and self-controlled. The girls' sex role attitudes will be assessed through doll play interviews. Parents' and teachers' interactions with children and their own sex role attitudes will be examined through interviews and structured observations. Three main areas of parental influence and their interrelationship will be investigated: (1) parental childrearing values and practices in the following areas: independence training, maturity demands, setting standards by parents, warmth and nurturance, clarity of communication, father's role in rearing, and parental goals and aspirations for the child; (2) mother's work history and satisfaction with her role patterns; and (3) parental sex role attitudes, stereotyping, ideology, and preferences. Dimensions of girls' competence will be analyzed in relation to patterns of school and family variables. Children will be rated on a series of bipolar scales to be developed by the researchers.

Duration: May 1974-May 1977.

Cooperating group(s): National Institute on Alcohol Abuse and Alcoholism; Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.

36-FA-3 SOCIAL ISOLATION, SOCIAL SURROGATES, AND AFFILIATION

Investigator(s): Carol Werner, Ph.D., Assistant Professor, Psychology Department; and Kay E. Hansen, B.S., Graduate Student, Educational Psychology Department, University of Utah, Salt Lake City, Utah 84112.
Purpose: To resolve whether children provide unique satisfactions for each other or whether interaction with any responsive partner can satisfy the need for affiliation.
Subjects: 12 girls and 12 boys from two Salt Lake City Alternative School programs. The younger group ranged in age from 5 to 7; the older group, from 8 to 12.
Methods: In a 3 x 3 Latin-square design, subjects were isolated from school for a 15-minute period either with a toy, a dog, or a friend. The dependent measure was whether or not the subject spoke to the experimenter when retrieved from isolation (scored 1 or 0). These data were analyzed in a 2 (age) by 3 (waiting condition) repeated measures analysis of variance.
Findings: A significant interaction ($F(2,44) = 4.28$, $p < .05$) indicated that young children were more likely to speak after waiting with a dog (42 percent said something) or a friend (50 percent) than after waiting with a toy (33 percent). The older children were most likely to speak after waiting with a friend (75 percent) than either a toy (42 percent) or a dog (33 percent).
Duration: March 1974-June 1976.
Cooperating group(s): Marmalade Hill School; Thoreau School; University of Utah Faculty Research Grant.

36-FA-4 EFFECTS OF PLAY ON NOVEL RESPONSES IN PRESCHOOL CHILDREN

Investigator(s): Anita K. F. Li, Ph.D., Assistant Professor, Department of Educational Psychology, University of Calgary, Calgary, Alberta, Canada.
Purpose: To provide an experimental test of the view that play is associated with the emergence of novel responses, which is an aspect of creativity; and to explore the differential outcomes of free, spontaneous play as compared with tutored pretense play.
Subjects: 60 boys and 60 girls, ages 4 to 6, attending kindergarten in Calgary.
Methods: The subjects were randomly assigned to each of four treatment conditions: free play, tutored make-believe play, imitation, and control. In each of the four conditions, the stimulus materials were paper towel, paper clip, and a matchbox. The dependent measure was an *alternate uses* test with the following objects: a paper clip, a matchbox, a paper towel, plus a screwdriver. Each subject was seen individually. Responses were judged as either standard or nonstandard uses. Multivariate analysis of covariance was employed.
Findings: No significant differences were found between groups in two of the objects, but significant differences were found between groups in the other two (in favor of both free play and make-believe play groups). In the object that none of the groups had handled, the make-believe group had the highest nonstandard mean score.
Duration: 1974-continuing.
Cooperating group(s): University of Calgary Research Grant.

36-FA-5 SOCIODRAMATIC PLAY AMONG 3- AND 4-YEAR-OLD BLACK CHILDREN

Investigator(s): Pamela Werton, Ed.D., Assistant Professor, Department of Early Childhood Education, University of Texas at San Antonio, San Antonio, Texas 78285.
Purpose: To determine the frequency of occurrences of sociodramatic play behavior in 3- and 4-year-old black boys and girls in classroom situations.
Subjects: 48 black children, ages 3 and 4, equally divided by sex, drawn from three day care centers located in midwestern Indiana. All of the children were of low socioeconomic status.
Methods: Narrative recordings of the play behavior of the children were systematically made every 30 seconds for a period of 5 minutes. This resulted in a total of 20 observations per day, 10 by each observer for each child, over a period of 6 days. The child's play behaviors were recorded on a specimen record recording the actions and verbalizations during the 5-minute-a-day observations. After the specimen records were analyzed, these observations were transferred to the checklist portion of the Christman, Werton, Schurr Observation Instrument.
Findings: The results indicated that the variables of sex and age produced no significant differences at the .05 level of significance, although 4-year-old females scored higher on all of the elements of sociodramatic play. Consistent differences were found in both the age and sex of the black child in regard to the six elements of sociodramatic play, but these differences did not prove to be statistically significant. Findings indicate that from their earliest years children must be given a variety of social interactions and manipulative activities to encourage and develop a wide range of play experiences.
Duration: March 1975-completed.

36-FA-6 PEER INTERACTIVE PATTERNS AMONG PRESCHOOL CHILDREN

Investigator(s): William A. Corsaro, Ph.D., Assistant Professor, Department of Sociology, Indiana University, Bloomington, Indiana 47401.
Purpose: To isolate and identify communicative strategies employed by children to initiate, construct, maintain, and terminate social interactive events; to estimate social contextual effects on the language styles of children; to identify features of the children's social perspectives in the peer environment as reflected in a role and fantasy play and the establishment of friendship groups; and to identify sex role and status awareness by children and their manifestation in peer interaction.
Subjects: 50 children from two age groups in a nursery school (3.0 to 4.0 and 4.0 to 5.0). There were 14 boys and 11 girls in the younger age group and 13 boys and 12 girls in the older group. The occupational and educational backgrounds of parents ranged from blue collar workers to professionals, with the majority of the children coming from professional families. Minority group children (Mexican Americans, Blacks, and Asians) were represented, but in proportions much less than the minority population of the city in which the nursery school was located.
Methods: Data collection involved direct ethnographic field work and participant observation in the early stages and videotaping of spontaneous interactive events in the later stages. The major research objectives of the present project center around the analysis of 30 hours of videotaped data collected in a 1-year naturalistic study of peer interaction among 3- and 4-year olds in a nursery school setting and the collection of 6 hours of longitudinal data on the 3-year-old group a year later in the same setting. Analysis procedures involved microsociolinguistic techniques that have been developed in recent research on conversational and interactive analysis. The overall methodological procedure is based on the grounded theory method

developed by Glaser and Strauss.
Findings: Initial findings center around the relationship between social ecological features of the nursery school and the communicative strategies of young children. The type and complexity of language style vary across social context, with a high degree of social speech in all contexts.
Duration: October 1974-December 1976.
Cooperating group(s): National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Spencer Foundation; Indiana University, School of Education.

36-FB-1 TEEN-AGE PREGNANCY: RELATED FACTORS--SCHOOL, CONTRACEPTIVES, FAMILY PERSONAL ATTITUDES AND VALUES

Investigator(s): Michael J. Sporakowski, Ph.D., Professor of Family Development, 201 Wallace Annex, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.
Purpose: To examine a program for pregnant teen-agers for its adequacy of contraceptives and sex knowledge, relation of knowledge to behavior, motivation for pregnancy, student-school relationships, evaluation of the program, family influences, and school influence.
Subjects: 120 unmarried girls, ages 12 to 18, from the Roanoke, Virginia area.
Methods: Data will be obtained by interviews of participants in programs for pregnant teen-agers. Descriptive comparisons will be made to meet the stated objectives.
Duration: October 1974-December 1976.

36-FC-1 ALCOHOL INTAKE DURING PREGNANCY AND DEVELOPMENT OF OFFSPRING

Investigator(s): Ann Pytkowicz Streissguth, Ph.D., Associate Professor; Joan C. Martin, Ph.D., Associate Professor; and Don C. Martin, Ph.D., Associate Professor, Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, Washington 98195.
Purpose: To study the extent to which heavy social drinking during pregnancy might be deleterious to the developing fetus.
Subjects: 2,000 pregnant women, from a broad range of social class and ethnic backgrounds.
Methods: The subjects will be interviewed regarding their beverage consumption and drug taking habits during and prior to pregnancy. Heavy drinking and abstaining gravidas, matched on race, parity, and maternal education will be selected for follow-up. Outcome variables will be the status of infant at birth and functional integrity of the central nervous system as measured by neonatal behavior scales; neonatal operant learning procedures; and full mental, motor, and behavioral assessments at ages 8 and 18 months.
Duration: September 1974-August 1977.
Cooperating group(s): National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.

36-FC-2 MEDICAL RESEARCH COUNCIL/DERBYSHIRE LONGITUDINAL SMOKING STUDY

Investigator(s): W. W. Holland, M.D., Professor, Clinical Epidemiology and Social Medicine; Beulah R. Bewley, M.D., Senior Research Fellow; J. M. Bland, M.Sc., Lecturer, Medical Statistics; and M. H. Banks, B.Sc., Lecturer, Social Psychology, Department of Community Medicine, Medical School, St. Thomas's Hospital, 60 Sancroft Street, London SE11 5NG, England.
Purpose: To provide prevalence and incidence rates of smoking in a school population, ages 11 to 16; to assess the impact of smoking on respiratory symptoms of a defined population of school children; to investigate some of the environmental, social, and psychological factors associated with the recruitment of smokers and the maintenance of the smoking habit; and to design and evaluate different antismoking programs.
Subjects: Three groups of secondary school children in Derbyshire: Prospective Group: 7,000 children from 51 schools; Hawthorn Group: 2,500 children from 22 schools; and Intervention Group: 2,500 children from 17 schools.
Methods: In 1974 the Prospective Group was studied from the first year of secondary school and will be followed by a yearly self-administered questionnaire until 1978. The parents of these children completed a family questionnaire in 1974/75 and will be given a second questionnaire at the end of the study period. The teachers in the 51 schools will complete a questionnaire yearly on their smoking habits. The headteachers in the schools were interviewed by the study team and information about the school was obtained. In order to study changes over time, a Secular Trend Group will be studied. A sample was selected from 14 out of 51 schools, and fourth year pupils completed a short questionnaire on smoking and respiratory symptoms. In 1978, first year pupils will be asked to complete a similar questionnaire. The Hawthorn Group will not participate in the study until 1978.
Duration: 1973-1979.
Cooperating group(s): Derbyshire Area Health Authority; Derbyshire Education Authority.

36-FC-3 HEREDITY AND EXPERIENCE: THEIR RELATIVE IMPORTANCE IN THE DEVELOPMENT OF TASTE PREFERENCE IN MAN

Investigator(s): Lawrence S. Greene, Ph.D., Research Scientist, Krogman Growth Center, Children's Hospital of Philadelphia, 34th Street and Civic Center Boulevard, Philadelphia, Pennsylvania 19104.
Purpose: To determine the relative importance of heredity and experience in the development of taste preference in man.
Subjects: 311 twin pairs, ages 9 to 15, equally divided by sex and race (black or white).
Methods: Comparisons were made of taste preference for four concentrations of sucrose, lactose, and sodium chloride. Heritability estimates were calculated. Age, sex, and racial differences were compared.
Findings: Heritability of taste preference is extremely low. Black children prefer more concentrated solutions than Caucasian children, independent of socioeconomic status. Males prefer more concentrated solutions than females.
Duration: June 1972-June 1976.
Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare; Grant Foundation; Department of Anthropology, University of Pennsylvania; University of Minnesota.
Publications: *Journal of Comparative and Physiological Psychology*, 1975, 89, 279-284.

36-FD-1 PSYCHOSOCIAL ANTECEDENTS OF AUTOMOBILE ACCIDENTS AMONG RURAL TEEN-AGERS

Investigator(s): Raymond Sobel, M.D., Professor, Department of Psychiatry, Medical School, Dartmouth College, Hanover, New Hampshire 03755.
Purpose: To determine the relationship between family disorganization and the incidence of traffic violations and crashes of rural teen-agers.
Subjects: 496 boys and girls, modal age 18, who had obtained drivers' licenses during a 1-year period; and their families.
Methods: A 50 percent sample of beginning drivers was selected from motor vehicle records. Interviews were held with the teen-agers and with their parents. Data were obtained on driving habits, mileage, accidents, violations, family pathology and normality, individual personality variables, interpersonal relationships, and school and work adjustment. The data were analyzed with conventional statistics including correlation, multiple regression, and path analysis.
Findings: Teen-age accidents are significantly related to family disequilibrium in boys only. For girls, it seems, driving is not a means of expression of family conflict.
Duration: May 1972-April 1977.
Cooperating group(s): Center for Epidemiologic Studies; National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.
Publications: A paper presented and published in *Proceedings of the Eighteenth Conference of the American Association for Automotive Medicine*, Toronto, Ontario, Canada, September 12-14, 1974: Sobel, R. and Underhill, R. Psychosocial antecedents of automobile accidents in rural adolescents.

36-FD-2 SOCIAL COMPARISON AND SELF-EVALUATION IN CHILDREN

Investigator(s): Diane N. Ruble, Ph.D., Assistant Professor, Department of Psychology, Princeton University, Princeton, New Jersey 08540.
Purpose: To determine to what extent children at different ages use social information to evaluate their own performances; and to examine the development of the motivation to socially compare.
Subjects: Kindergarten and fourth grade boys and girls.
Methods: Information was provided concerning the child's own outcome and the outcome of other children. The child was asked to evaluate his or her own pride and shame, ability level, etc. The frequency and duration with which children push a button to observe on a monitor their partner's progress is the index of strength of motivation.
Findings: Children do not seem to use social comparison information in their self-evaluations until after the second grade. Children show a strong increase in social comparison motivation between kindergarten and second grade.
Duration: July 1975-June 1976.
Publications: Ruble, D. N.; Feldman, N. S.; and Boggiano, A. K. Social comparison between young children in achievement situation. *Developmental Psychology* (in press).

36-FD-3 TELEVISION STEREOTYPES AND SOCIAL ROLE ATTITUDES OF CHILDREN

Investigator(s): Bradley S. Greenberg, Ph.D., Professor; and Charles K. Atkin, Ph.D., Associate Professor, Department of Communication, Michigan State University, East Lansing, Michigan 48824.
Purpose: To investigate the impact of television on children's social role attitudes with special attention to mediating variables which may minimize antisocial learning and maximize prosocial learning.
Subjects: 1,500 third through eighth graders from schools selected to represent diverse geographic, racial, and socioeconomic backgrounds; and 300 selected mothers of the children.
Methods: Content analysis will be made of a composite week of prime time and Saturday morning commercial television programs. A field survey of school children and parents will be made to relate television viewing, demographics, and child/parent attitudes to social role learning. A field survey will be done to compare the television impact in Eastern and Central time zones where broadcast times differ.
Duration: July 1975-June 1976.
Cooperating group(s): Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.

36-FE-1 SOCIAL INFERENCES AND TELEVISION EFFECTS ON CHILDREN

Investigator(s): W. Andrew Collins, Ph.D., Assistant Professor; and Sally Driscoll Westby, M.A., Research Associate, Institute of Child Development, University of Minnesota, Minneapolis, Minnesota 55455.
Purpose: To investigate the process by which social content (e.g., aggression, altruism, etc.) of television programs produces varying effects on viewers of different ages; and to examine the relationship of age-related differences in comprehension and evaluation of television content to postviewing behavior.
Subjects: Normal children, ages 4 to 16, from predominantly white middle class homes and from public and parochial schools.
Methods: Children are shown an edited version of a television program or a specially made videotape using nonprofessional actors. They are then interviewed about their understanding of the program and their evaluations of its characters and are asked to respond to a simulated interpersonal conflict situation.
Findings: Young children's imitation of a televised character's behavior seems to be heavily influenced by depicted modified cues such as motives and consequences. Older children's (8th graders') imitation is not influenced. Older children's evaluation and imitation of characters may be influenced more by internalized values, or their previous experiences, than by contextual cues. Younger children are less likely to be influenced by motives and consequences as by commercials, when they are separated in time from the modeled behavior. Young children (2d graders) seem to handle social information from television programs differently than older children (5th to 8th graders). While they do remember discrete scenes, younger children show little tendency to try to relate scenes to each other and make sense of them. Older children appear to strain for the meaning of the program and go beyond the scenes to infer causal connections among them.
Duration: September 1973-June 1976.
Cooperating group(s): National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; public and parochial schools, Minneapolis-St. Paul area.

36-FE-2 DEVELOPMENT OF THE ABILITY TO COMMUNICATE

Investigator(s): Steven R. Asher, Ph.D., Assistant Professor, Department of Educational Psychology, 276 Education Building, University of Illinois, Urbana-Champaign, Illinois 61801.
Purpose: To assess developmental changes in children's ability to communicate; to appraise their own and others' communication performance; and to utilize feedback about their performance.
Subjects: 90 boys and girls: 30 each from grades 2, 4, and 6.
Methods: The research will provide procedures to assess self-monitoring skill and to examine the relationship between self-monitoring and the utilization of communication feedback. To assess self-monitoring, children and adults will be asked to predict the impact of their own vs. someone else's communications. Video playback will serve as feedback of speaker communication. Pre- and postfeedback communication will provide the basis for measuring the impact of feedback. In some studies, children are randomly assigned to training vs. no training conditions, and the effect of training on performance is assessed.
Findings: Research indicates that (1) the abilities to communicate accurately and to appraise accurately increase over age and are positively correlated with each other, (2) children are equally effective at appraising their own vs. another person's communication performance, and (3) training children to engage in comparison activity improves communication performance.
Duration: June 1973-May 1976.
Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-FE-3 TELEVISION ADVERTISING AND ITS EFFECTS ON CHILDREN: STUDY I

Investigator(s): Tanniru R. Rao, Ph.D., Associate Dean; and V. Kanti Prasad, Ph.D., Assistant Professor, School of Business Administration, University of Wisconsin at Milwaukee, Milwaukee, Wisconsin 53201; and Anees Sheikh, Ph.D., Associate Professor, Department of Psychology, Marquette University, Milwaukee, Wisconsin 53233.
Purpose: To relate the nature of program setting to children's information processing of television commercials; and to study the modes of information processing by younger children.
Subjects: 40 boys, ages 4 to 6, chosen from selected grade schools in the Milwaukee area.
Methods: The subjects are exposed to television commercials (advertising new products with which the subjects are unfamiliar) in two different settings (cartoon vs. noncartoon). Attention and affective responses are measured by time-sampled unobtrusive observation, and the remainder of the information is measured through tape recorded postexposure interviews with the children. The relative effectiveness of Piagetian-type clinical interviews and structured interviews in obtaining information is examined. In addition to the experimental data, information concerning parent-child relationships at home, child's TV viewing habits, and parental attitudes toward TV advertising is obtained.
Duration: March 1975-March 1976.
Cooperating group(s): Behavioral Sciences Research Branch, National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Urban Research Center, University of Wisconsin at Milwaukee.

36-FE-4 TELEVISION ADVERTISING AND ITS EFFECTS ON CHILDREN: STUDY II

Investigator(s): Tanniru R. Rao, Ph.D., Associate Dean; and V. Kanti Prasad, Ph.D., Assistant Professor, School of Business Administration, University of Wisconsin at Milwaukee, Milwaukee, Wisconsin 53201; and Anees Sheikh, Ph.D., Associate Professor, Department of Psychology, Marquette University, Milwaukee, Wisconsin 53233.

Purpose: To study the role of parental discipline in mediating the influence of television commercials on children.

Subjects: 64 boys, ages 7 to 9, chosen from selected grade schools in the Milwaukee area.

Methods: The subjects are exposed to commercials advertising new products with which the children are unfamiliar. The subjects' mothers are trained in countercommercial advocacy. Two styles of contrary advice are tested: power assertive and reasoning styles. In the control condition, no contrary advice is received. The child, following his exposure to discrepant information inputs, is led into a store where two products comparable in attractiveness (determined by an independent pretesting) are displayed. One set of dependent variables is the subject's behavior in the store when observed through a one-way mirror: actual choice, time taken to make the purchase decision, switching between items, or other unusual behavior. Additional dependent variables are coded from tape recorded interviews with the child. In addition to the experimental data, information concerning parent-child relationships at home, the child's TV viewing habits, and parental attitudes toward TV advertising are obtained.

Duration: March 1975-March 1976.

Cooperating group(s): Behavioral Sciences Research Branch, National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; Urban Research Center, University of Wisconsin at Milwaukee.

SPECIAL GROUPS OF CHILDREN

Physically Handicapped

36-GA-1 ANNUAL SURVEY OF HEARING IMPAIRED CHILDREN AND YOUTH AND NATIONAL ACHIEVEMENT TEST STANDARDIZATION PROGRAM

Investigator(s): Arthur Schildroth, Research Associate, Office of Demographic Studies, Gallaudet College, 7th and Florida, N.E., Washington, D. C. 20002.
Purpose: To collect, analyze, and publish demographic data on hearing impaired students in special education programs; and to conduct a national achievement test program in order to produce norms for hearing impaired students and to relate test results to demographic characteristics.
Subjects: 45,000 hearing impaired children in special education programs throughout the United States (first part of research); and 7,000 hearing impaired children in 119 special education programs (second part of research). The children are over age 8.
Methods: For the first part of the study, a questionnaire was sent to special education programs to be filled out on each student. All the data were computerized. The second part of the study involved administering a special edition of the Stanford Achievement Test for hearing impaired students.
Duration: 1969-continuing.
Publications: Within limits of confidentiality and federal law, the Office of Demographic Studies data are available for use and analysis by researchers and other responsible investigators.

36-GB-1 A COMPARISON OF MENTAL, PSYCHOLOGICAL, AND SPEECH AND LANGUAGE DEVELOPMENT IN CHILDREN WITH ISOLATED CLEFTS AND THOSE WITH UNILATERAL CLEFTS

Investigator(s): Betty Jane McWilliams, Ph.D., Director, Cleft Palate Center, University of Pittsburgh, 313 Salk Hall, Pittsburgh, Pennsylvania 15261.
Purpose: To determine whether or not children with isolated clefts and children with unilateral clefts differ from each other, and if the presence or absence of other congenital abnormalities is an influencing factor.
Subjects: Boys and girls, ages 4 to 16, divided into two groups according to nature of cleft.
Methods: The two groups of children will be compared using data derived from the Wechsler Intelligence Scale for Children, the Coopersmith Test, Goodenough-Harris Test, Templin-Darley Articulation Test, Audiological Assessment, and the Vineland Social Maturity Scale.
Findings: Children with isolated clefts of the palate cannot be said to suffer developmental problems more frequently than children with unilateral clefts. The exact nature of the differences is yet to be clarified.
Duration: October 1974-July 1977.
Cooperating group(s): National Institute of Dental Research, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-GB-2 BRAIN TRAUMA: ULTRASOUND VISUALIZATION ASSESSMENT

Investigator(s): Robert F. Heimburger, M.D., Professor of Surgery, Indiana University Medical School; and Director, Medical Services, Fortune Fry Research Laboratories, Indianapolis Center for Advanced Research, 1100 West Michigan Street, Indianapolis, Indiana 46202.

Purpose: To visualize the brain, noninvasively with ultrasound, following trauma.

Subjects: Patients with trauma, with and without craniectomy. Success with visualization in children has provided a large number for this project.

Methods: Most of the children in this project have clear evidence of severe cerebral dysfunction, often resulting from birth trauma. They are usually comatose. A waterbag is applied to their head with a coupling gel. An ultrasound transducer is mechanically moved through the waterbath to provide an immediate display on a television monitor. Polaroid photographs are made for permanent records. Some children with brain tumors have also been visualized.

Findings: Internal structure of the brain, both normal and abnormal, can be clearly visualized in children up to 3 or 4 years. The lateral ventricles, brain midline, sylvian fissures, temporal horns, and brain-stem can be seen clearly on all neonates. Areas of hemorrhage and contusion are more reflective of ultrasound than other parts of the brain and can be clearly identified. Cystic tumors can be differentiated from solid ones in children up to 3 or 4 years old.

Duration: 1972-continuing

Cooperating group(s): Indiana University Medical Center; National Institute of Neurological and Communicative Disorders and Stroke, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-GB-3 REPORT OF THE COMMITTEE FOR A STUDY FOR EVALUATION OF TESTING FOR CYSTIC FIBROSIS

Investigator(s): Artemis P. Simopoulos, M.D., Executive Secretary, Division of Medical Sciences, Assembly of Life Sciences, National Research Council, National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, D. C. 20009.

Purpose: To review the data on the cystic fibrosis (CF) factors in serum and exocrine secretions and in cell culture; to review the role of the CF factors in the detection of the heterozygote and in the diagnosis of CF in the homozygote *in utero;* to evaluate screening tests for the diagnosis of CF in the newborn; and to evaluate the sweat test as a diagnostic tool in the detection of CF.

Methods: A multidisciplinary committee of experts reviewed the literature, held a series of workshops on different aspects of the study, evaluated current research, and, after careful deliberation, wrote a report and made recommendations on testing for cystic fibrosis.

Findings: The basic defect in CF remains unknown. Tissue damage caused by generalized obstruction of organ passages by abnormally behaving secretions is one consequence of the basic defect. Pulmonary malfunction, although secondary to the basic defect, is responsible for most of the morbidity and essentially all the mortality in this disease. Obligate CF heterozygotes are free of symptoms, show no evidence of unusual mortality, and have normal pulmonary function. The pathologic findings of CF during the prenatal period are largely unknown. The nature of normal mucociliary clearance is not yet understood. It has not been proved that the mucins of patients with CF, although relatively water-deficient, are abnormal. The sweat test is an efficient diagnostic test when properly performed and when interpreted by a knowledgeable physician in the light of the overall clinical picture. Because the sweat test is particularly susceptible to error, diagnosis is more likely to be accurate when the test is performed at centers with experienced personnel. There are no tests that meet established criteria for general screening for CF *in utero* or at any time thereafter. Neonates produce insufficient

sweat to permit screening by the sweat test before the age of about 4 to 6 weeks. Even after the neonatal period, the quantitative pilocarpine iontophoresis sweat test is too complex and expensive for screening large populations. Testing for CF is most accurately done in specialized centers (cystic fibrosis and pediatric pulmonary centers) and is least accurately done in physicians' offices, primarily because the best method (the Gibson-Cooke method) is technically complicated and time consuming.

Duration: August 1974-completed.

Cooperating group(s): National Institute of Arthritis, Metabolic, and Digestive Diseases; National Institutes of Health; Public Health Service; U. S. Department of Health, Education, and Welfare; Division of Lung Diseases, National Heart and Lung Institute, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-GD-1 PROLONGED EFFECTS OF ACUTE RESPIRATORY ILLNESSES IN CHILDHOOD

Investigator(s): Lynn M. Taussig, M.D., Assistant Professor, Department of Pediatrics, School of Medicine, University of Arizona, 1501 North Campbell Avenue, Tucson, Arizona 85721.

Purpose: To determine if bronchiolitis, laryngotracheobronchitis (LTB), and acute upper respiratory tract infections (URI—common cold) in children cause prolonged abnormalities in pulmonary function; and to study the nasal-airway and glottic-airway reflexes that may cause broncho-constriction and, thereby, some of the abnormalities in LTB, URI, and asthma.

Subjects: 50 infants, ages 3 months to 3 years; and 60 children, ages 8 to 15.

Methods: Children with bronchiolitis, LTB, and URI will be evaluated during the acute episode and at various intervals after the illness. Tests will include arterial gas tensions and appropriate (for age) pulmonary function tests (resistance, static or dynamic compliance, functional residual capacity, plethysmographic lung volumes, maximal expiratory flow volume curves on air and on a helium-oxygen mixture, determination of points of identical flow, maximum midexpiratory flow rates, closing volumes, and the slope of Phase 3 on the nitrogen-washout curves). Detailed viral studies and allergic evaluations will be done on all patients. An epidemiological study of the home environment in bronchiolitis will also be done. Children who had bronchiolitis or LTB 6 to 8 years previously will be recalled for detailed pulmonary function testing. All results will be compared to those obtained from a control group derived from the same population. Asthmatic adolescents will be given aerosolized antigens (via the nasal route) while they hold their breath at total lung capacity. Following a prolonged expiration, maximal flow rates, resistance, and lung volumes will be measured and compared to pre-exposure values. The effects of atropine and topical nasal anesthetics on any changes in pulmonary function will be evaluated.

Duration: July 1974-June 1976.

Cooperating group(s): National Heart and Lung Institute, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-GE-1 STANDARDS FOR CAPTIONING OF FILM AND TELEVISION FOR DEAF CHILDREN

Investigator(s): Alan L. Stewart, Ph.D., Director of Research; and Estelle P. Hochberg, Assistant Research Scientist, Deafness Rehabilitation Research and Training Center, School of Education, New York University, 80 Washington Square East, New York, New York 10003.

Purpose: To establish minimum standards for captioning of films and television for deaf children.

Subjects: Deaf, hard of hearing, and hearing boys and girls, ages 12 to 18.
Methods: Speed and accuracy of caption reading will be compared under different conditions of font style and caption placement and will be related to age, reading level, and hearing status.
Duration: September 1974-August 1976.

36-GE-2 ADAPTATION FOR DEAF CHILDREN OF THE SOCIAL LEARNING CURRICULUM FOR MENTALLY RETARDED DEAF CHILDREN

Investigator(s): Doris M. Naiman, Ph.D., Director of Training, Deafness Rehabilitation Research and Training Center, School of Education, New York University, 80 Washington Square East, New York, New York 10003.
Purpose: To adapt the social learning curriculum for mentally retarded children (developed by Yeshiva University) for use by deaf children; and to prepare specific adaptations of materials, phase by phase, for use by deaf and hard of hearing children.
Subjects: Children from seven programs and schools for the deaf, mentally retarded children, and normal deaf children.
Methods: Yeshiva University Curriculum Research and Development Center is cooperating with the deafness center to adapt the social learning curriculum for use with deaf children. Eighteen volunteer teachers and supervisors from seven programs and schools for deaf children meet periodically to review materials and adaptations for a manual. Teachers have used part of the curriculum in their classrooms and have suggested adaptations. Guidelines for adaptation have been set and specific sample substitute activities have been planned and tried out.
Duration: September 1973-August 1976.
Publications: A teachers' adaptation manual will be published for use with the social learning curriculum kit.

36-GE-3 THE ORGANIZATIONAL MANAGEMENT OF THE YOUNG HANDICAPPED

Investigator(s): P. M. Strong, M.A., Research Fellow; and A. G. Davis, B.A., Research Fellow, Centre for Social Studies, University of Aberdeen, Westburn Road, Aberdeen AB9 2ZE, Scotland, United Kingdom.
Purpose: To describe the management of handicap by medical staff in a new assessment unit.
Subjects: Children attending an initial assessment unit after referral for assessment of behavior.
Methods: The research design involves observations of interactions, interviews with staff and parents, and an investigation of recordkeeping.
Duration: 1971-1976.
Cooperating group(s): Social Science Research Council, United Kingdom; Scottish Home and Health Department.
Publications: A final report will be available from the investigators.

36-GE-4 TREATMENT OF MALIGNANT DISEASE IN CHILDHOOD

Investigator(s): Brigid G. Leventhal, M.D., Head, Chemoimmunotherapy Section; and John L. Ziegler, M.D., Head, Pediatric Oncology Branch, National Cancer Institute, Bethesda, Maryland 20014; and Judith L. Vaitukaitis; National Institute of Child Health and Human

Development, National Institutes of Health, Building 10, Room 10B-09, Bethesda, Maryland 20014.

Purpose: To determine the effect of leukemia and chemotherapy on hypothalamic-pituitary-ovarian function.

Subjects: 35 patients, ages 2.5 to 16, at diagnosis.

Methods: The subjects were divided into three groups relative to age at diagnosis: prepubertal (PP), pubertal and/or age 10 but not menarchal (P), and postmenarchal (PM). All patients received combination chemotherapy for .5 to 9 years. Tanner staging of breast development, serum FSH, LH and estradiol levels were determined. Of the 17 PP girls, 8 developed spontaneous menarche, 4 while receiving chemotherapy. Three (8, 12, and 12 years) are prepubertal and 6 (ages 10 to 11.5) have appropriate pubertal progression. Of 11 patients in group P, 5 underwent spontaneous menarche, 3 while on chemotherapy. Two other patients have normal pubertal development. Four are abnormal; 3 (13, 14, and 17 years) have arrested pubertal development with abnormally low serum FSH and LH levels and one (age 15) has elevated serum FSH and LH levels. Of 7 patients in group PM, 5 have cyclic menses; two have conceived. Two others (13 and 14 years) developed amenorrhea coincident with diagnosis and have elevated serum FSH but low LH levels. Of the 17 PP patients, none clearly is abnormal. Of 18 P and PM patients, 3 have elevated serum gonadotropin levels and appear to have primary ovarian dysfunction, probably drug induced; 3 others have retarded pubertal development and low FSH and LH levels, suggesting hypothalamic dysfunction. Occurrence and treatment of leukemia prior to puberty has a significantly less adverse effect on the hypothalamic-pituitary-ovarian axis than does onset of disease near menarche.

Findings: Growth and development in patients who are doing well in long-term remission appear normal. Reproductive capacity appears normal as well unless patients have received alkylating agents.

Duration: Ongoing. National Institutes of Health inhouse study.

36-GE-5 RUBELLA PROJECT

Investigator(s): L. Z. Cooper, M.D., Director, Pediatric Service; P. R. Ziring, M.D., Chief, Multihandicapped Children's Section; E. Klein, M.D., Chief, Virus Research Laboratory; B. Fodim, R.N., Nurse Coordinator; and M. Appell, M.A., Chief, Child Development Section, Roosevelt Hospital, 428 West 59th Street, New York, New York 10019.

Purpose: To characterize the natural history of cogenital rubella; to evaluate rubella virus vaccines; and to develop new techniques to study oral immunology, epidemiology and clinical characteristics of rubella, congenital rubella, and rubella vaccination.

Subjects: Approximately 600 newborns, boys and girls, studied to age 15, most with congenital rubella.

Methods: The research design involves a longitudinal follow-up of congenital rubella children and a longitudinal follow-up of rubella vaccine recipients.

Duration: 1964-continuing.

Cooperating group(s): March of Dimes; National Institute of Allergy and Infectious Diseases, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare; New York State Department of Mental Health.

Publications: A paper on congenital rubella in the United States presented to the International Symposium on Viral and Bacterial Infections in Ante- and Postnatal Life, March 1975.

36-GE-6 A TAPE RECORDER METHOD FOR IMPROVING THE SPEECH FLUENCY OF CHILDREN

Investigator(s): Bernard S. Lee, B.S., Research Associate; and Maryann Peins, Ph.D., Adjunct Professor, Department of Psychiatry, College of Medicine and Dentistry of New Jersey, Rutgers Medical School, Piscataway, New Jersey 08854.
Purpose: To improve speech fluency of children.
Subjects: Six girls and boys, ages 9 to 12, who have severe stuttering symptoms but are otherwise normal.
Methods: The research involves a pre- and posttest design to judge the severity of the stutter. The subjects will go through a 3-month evaluation using tape recorders. A long-term follow-up will be done.
Findings: This age group seems to develop speech skill with the tape recorder method.
Duration: 1970-1977.

36-GE-7 PARENTS TEACHING PROFESSIONALS

Investigator(s): Norman E. Bissell, Ed.D., Associate Professor, Department of Special Education and School Psychology, College of Education, University of Cincinnati, Cincinnati, Ohio 45221.
Purpose: To develop, demonstrate, and evaluate an array of appropriate parent inputs in the preparation of special educators.
Subjects: 150 graduate students in special education and other helping professions enrolled in a course, "Counseling the Parents of Exceptional Children," at the University of Cincinnati; 70 graduate students acted as controls.
Methods: The research was done in two phases. Phase I of the study involved the production of five videotaped informal discussions with parents of handicapped children (mentally retarded, autistic, crippled, inner city). The tapes were field tested in classes in parent counseling at the University of Cincinnati during Winter, Spring, and Summer Quarters, 1974-1975. Students (N = 127), representing several disciplines concerned with helping handicapped children and their parents, completed an evaluation questionnaire. Results indicated that the instructional media package was effective. Phase II of the study is in progress. In this phase of research, data concerning the impact of an array of parent inputs (e.g., viewing the videotapes; interviewing a parent; meeting parents in small groups; attending parent meetings; hearing presentations by fathers, mothers, and siblings of handicapped children in class) will be evaluated using the Parent Characteristic Scales which were developed to assess student attitude toward parents. Students enrolled in the course "Parent Teaching Professionals" will be evaluated before and after taking the course during Spring, Autumn, and Winter Quarters, 1976. The control subjects, enrolled in alternate sections of the class not using videotapes or maximal parent input, will be evaluated.
Findings: Parents of handicapped children are a virtually untapped resource in the education of professional personnel. Innovative opportunities abound to utilize their expertise.
Duration: August 1974-continuing.
Cooperating group(s): University of Cincinnati Media Services Center; Condon School; Hamilton County Association for Slowlearners; Cincinnati Society for Autistic Children; Community School Association.

36-GF-1 FOCAL THERAPY WITH THE FAMILIES OF ASTHMATIC CHILDREN

Investigator(s): Bryan Lask, M.Phil., M.R.C.Psych., Consultant Psychiatrist, Hospital for Sick Children, Great Ormond Street, London W.C.1, England.
Purpose: To assess whether working with families of asthmatic children alters the course of asthma; and to determine the families' and patients' attitudes toward asthma.
Subjects: 36 boys and girls, ages 5 to 14, who attend an asthma clinic at a large pediatric hosptial.
Methods: Two groups of asthmatic children will be randomly selected to make up a control group of 18, matched against an experimental group of 18. The experimental group will attend six family sessions, every 3 weeks for an hour. Assessments will be based on clinical condition, physiological measures, respiratory function tests, a series of attitude and behavior questionnaires, and a repertory grid. The assessments will be made at pretreatment, immediately after the end of treatment, and after 1 year. Pre- and posttest results will be compared.
Duration: May 1974-September 1976.

Mentally Retarded

36-HB-1 SONOMA NEURODEVELOPMENTAL ASSESSMENT BATTERY PROJECT (SNABP) AND 73 STAFFING STANDARDS PILOT PROJECT (STSSPP)

Investigator(s): Francis M. Crinella, Ph.D., Psychology Consultant; David R. May, Ph.D., Staff Psychologist; and Joan May, Ph.D., Staff Psychologist, Office of Program Review, Sonoma State Hospital, Eldridge, California 95431.
Purpose: SNABP: to develop a comprehensive neurodevelopmental assessment and prescriptive remediation battery to use with moderate and severely retarded individuals of all ages; and STSSPP: to determine the effects of greatly augmented staffing ratios on developmentally disabled persons in residential facilities.
Subjects: 2,000 male and female subjects, ages 3 to 80, who are moderately, severely and profoundly mentally retarded (including multihandicapped).
Methods: SNABP: Over 300 separate developmental experiments will be assembled into a format that focuses on functional neuroanatomical systems which tend to emerge during development. The experiments will be grouped by a functional system and refined into a standardized battery. Factor and cluster analyses will be the statistical treatments used. The value of the developmental profiles to predict levels of self-sufficiency will be determined through program implementation. The second project (STSSPP) will use multivariate analysis of environmental, interpersonal, developmental, and managerial outcomes of augmented staffing.
Findings: To date 300 clients have been evaluated, and the battery has been factor analyzed to reveal eight basic neurodevelopmental dimensions. Nine clusters of clients have been isolated, with characteristic levels of self-sufficiency being associated with developmental levels. Prescriptive programs have been developed for the various major configurations.
Duration: July 1972-continuing.
Cooperating group(s): Computer Science Center, University of California, Berkeley; Brain-Behavior Research Center, Langley Porter Neuropsychiatric Institute; University of California, San Francisco.

Publications: (1) Crinella. F. M. Identification of brain dysfunction syndromes in children through profile analysis: Patterns associated with so-called "minimal brain dysfunction." *Journal of Abnormal Psychology,* 1973, 82, 33-45. (2) Crinella, F. M. and Dreger, R. M. Tentative identification of brain dysfunction syndromes in children through profile analysis. *Journal of Consulting and Clinical Psychology,* 1972, 38, 251-260. (3) Crinella, F. M.; Beck, F. W.; and Robinson, J. W. Unilateral dominance is not related to neuropsychological integrity. *Child Development,* 1971, 42, 2033-2054.

36-HC-1 MOTIVATIONAL ASPECTS OF TRANSFER OF LEARNING IN SEVERELY SUBNORMAL CHILDREN

Investigator(s): Peter Evans, B.Sc.; James Hogg, Ph.D., Project Directors; and Paul Joyce, B.Sc., Research Fellow, Hester Adrian Research Centre, University of Manchester, Manchester M13 9PL, England.

Purpose: To relate individual differences that exist in the retarded child and which are exhibited in a number of situations to the experimental study of learning.

Subjects: Severely subnormal children in England.

Methods: Two different types of severely subnormal children were chosen: the inhibited child (withdrawn, quiet) and the excited child (outgoing, talkative). The child was typically taught to respond in different ways to two easily discriminated objects; e.g., a green square and a yellow square. When the green square (the S+) appeared on a screen in front of the child, he was taught to press the screen. This successful response led to something the child liked, a sweet or praise from an adult. When the yellow square (the S-) appeared, the child was taught not to press the screen. An unsuccessful response (i.e., pressing it when he should not) was followed by a buzzer that he had previously been taught indicated a wrong response or an adult saying, "No." The situations varied: colors were gradually varied to see how the child generalized what he had learned; the expected reward (positive reinforcement) was withheld; and so on. Thus, many different reactions to the situation were measured. The research will be extended to cover two new situations. The first one will investigate the transfer of attending responses. Here, the effects of learning a discrimination on one dimension on the generalization gradients of an orthogonal dimension is the measure of attentional transfer. The steepness of the gradient is the major dependent variable and this is compared to gradients obtained with appropriate control procedures. The second method will investigate the transfer of inhibitory responses. Generalization gradients are obtained around the S- and compared with gradients that were obtained by superimposing a previously established S+ on the S- dimension of generalization. These studies are controlled by a computer which allows for a completely automated experimental situation.

Findings: The findings of the first part of the research indicate that the excited child, in the learning situation, was motivated to get as many rewards as possible even at the expense of the undesirable consequences such as a buzzer. In contrast, the inhibited child would pass the opportunity for a reward in some situations rather than risk an undesirable consequence. The excited child was not just overactive but was trying to produce effects that were rewarding. The underactive child, by exhibiting little behavior, did not produce much that was rewarding but avoided anything unpleasant.

Duration: 1973-1977.

Cooperating group(s): Social Science Research Council.

Publications: Hogg, J. Personality assessment of the subnormal as the study of learning processes. In P. Mittler (Ed.), *Assessment for learning in the mentally handicapped.* London: Churchill Livingstone, 1973.

36-HC-2 A COMPARISON OF WISC-R AND WAIS SCALES FOR MENTALLY RETARDED 16-YEAR OLDS

Investigator(s): Charles L. Alcorn, Ph.D., Associate Professor, Department of Special Education, North Carolina Central University, Durham, North Carolina 27707.
Purpose: To ascertain (1) whether the Wechsler Intelligence Scale for Children-R (WISC-R) yields significantly lower IQ and subscale scores than the Wechsler Adult Intelligence Scale (WAIS) for 16-year-old suspected mentally retarded subjects; and (2) whether significant sex and race differences exist in the use of these instruments with this group.
Subjects: A minimum of 50 boys and girls, age 16, from central North Carolina who are identified by teachers as suspected mentally retarded and are referred for evaluation. Black children and white children will be included in the sample.
Methods: Subjects will be tested with both the WISC-R and the WAIS. A t-test of means will be used to determine if significant differences exist between Verbal, Performance, and Full Scale Scales of the WISC-R and the WAIS. Subscales will also be analyzed for racial and sex differences.
Findings: To date, eight subjects have been double tested. Inspection of data without statistical analysis reveals that for all eight cases, lower IQ's were obtained for all three scales (average difference of 15 points on Verbal, 9 on Performance, and 13 points on Full Scale).
Duration: September 1975-Spring 1976.
Publications: Copies of the study are available from the investigator.

36-HG-1 THE DEVELOPMENT OF VISUAL AND MOTOR SKILLS IN DOWN'S SYNDROME INFANTS

Investigator(s): Clifford C. Cunningham, Project Director; and Brian Hopkins, Research Fellow, Hester Adrian Research Centre, University of Manchester, Manchester M13 9PL, England.
Purpose: To investigate the development of visually directed reaching in Down's syndrome infants and then to intervene in an attempt to speed up its attainment.
Subjects: Down's syndrome infants born in the surrounding area of Manchester, England.
Methods: The research design uses the development of reaching in one group as a basis of comparison of the effect of intervention in a second group. Two-weekly videotape recordings are made of the infants under several conditions in the home. From these recordings, categories of prehensory and visual behavior are arrived at and their development plotted. Six-weekly assessments of general development are made using the Bayley Infant Scales. From 20 weeks of age, detailed assessments of the emergence of object permanence are collected. The intervention will use parents directly in training the behaviors. They will keep diaries describing the main activities of their infants. The diaries cover 24-hour periods at 5-minute intervals on a typical day each week. Parents will note the time spent sleeping, crying, playing, and feeding. By comparing these with similar diaries from mothers of normal babies, it is hoped that a more comprehensive view will be obtained than the present stereotype of Down's syndrome babies being good, passive, quiet, and sleeping most of the time. Data are also being collected on how the parents were told of the birth of the Down's infant and the effect it had upon them and their families. A comparison is being made on the emergence of eye-to-eye contact and face-to-face interaction of Down's syndrome and normal infants to investigate the hypothesis that the mother-child interaction will differ for the handicapped baby.
Duration: 1975-1976.
Cooperating group(s): Social Science Research Council.

Publications: Carr, J. Mental and motor development in young mongol children. *Journal of Mental Deficiency Research,* 1970, 14, 205-220.

36-HG-2 LONGITUDINAL STUDY OF DOWN'S SYNDROME CHILDREN

Investigator(s): Beverly VanderVeer, Ph.D., Psychologist, Clinical Training Unit, Child Development and Mental Retardation Center, WJ-10, University of Washington, Seattle, Washington 98195.
Purpose: To gather data on the intellectual, social, and academic functioning of Down's syndrome children who attend preschool and special education programs.
Subjects: 30 trisomy 21 children: 15 girls and 15 boys, ages 6 to 84 months (in 1975), who come to a diagnostic clinic for evaluation and assistance in locating training and educational resources.
Methods: Clinical research will be done, but service needs will take precedence. The subjects will be tested on the Bayley Scales, Stanford Binet, Wechsler Preschool and Primary Scale for Children, or the Wide Range Achievement Test and Wechsler Intelligence Scale for Children, if appropriate. The children will usually enroll in preschool after evaluation. The control group will be made up of newcomers to the clinic, not yet enrolled in school programs, and children coming to the clinic for similar evaluation and service. Clinical observations will provide the basis for selecting which behaviors or other phenomena to treat statistically.
Findings: Results indicate that (1) a decline in IQ does not necessarily occur between ages 2 and 5 when subjects are receiving intensive preschool programs; (2) at ages 5 and 6, word reading skills cannot be anticipated from IQ scores; (3) among children attending preschool, mental development is likely to exceed motor skills (discrepancy is more stable for Down's syndrome children than for unselected retarded children); and (4) Down's syndrome children in preschool perform better on IQ tests than nonschool attending Down's syndrome children matched for age.
Duration: 1970-1980.
Cooperating group(s): State of Washington Department of Social and Health Services; National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-HH-1 LANGUAGE AND COMMUNICATION SKILLS IN THE MENTALLY HANDICAPPED

Investigator(s): Peter Mittler, Ph.D.; and Paul Berry, Ph.D., Project Directors, Hester Adrian Research Centre, University of Manchester, Manchester M13 9PL, England.
Purpose: To study the ways teachers encode experience in the communication process, and the extent to which the encoding strategies can be seen as a function of the needs of educationally subnormal (ESN) children; to study the development of listening and speaking skills in dyadic referential communication situations and in natural interactions between ESN children; and to develop materials and methods for ESN children to facilitate specific linguistic forms and functions within a communication framework.
Subjects: Educationally subnormal children in England.
Methods: The project can be described in relation to three interdependent themes: Theme 1: Teacher communication strategies in unstructured and structured situations. Theme 2: The development of listening and speaking skills in dyadic referential communication situations

and in natural interactions between children. Theme 3: The development of language teaching strategies with special reference to the systematized use of modeling, imitation, and generalization. The research strategies involved with Theme 1 are a formal linguistic analysis concerned with the distribution of linguistic items, ranging from the word to the sentence type, among children addressed by the teacher; and an analysis focusing on the content and organization of the teacher's activities with the children. Two parallel approaches are being used to investigate the behavior in Theme 2. First, the children are observed in the classroom and then their performance during a structured experimental communication task is assessed. In the experimental situation, the children sit on either side of a screen so that they can only communicate verbally. They are each presented with three related pictures, one of which is designated as a target. The speaker's task is to describe this target to a listener on the other side of the screen, thus enabling him to identify it from his array of pictures. By varying the members of the dyad, the complexity of stimulus material and the amount of feedback and experience in the task, the effect of these variables can be assessed. Relationships between behavior in the two situations can then be identified. The research design in Theme 3 involves two principal programs, one of which involves a pilot study on the teaching of statements, questions, and imperatives in both receptive and productive modalities. The pilot study is a matched pair/control design and includes a wide range of pre- and posttests and observations. The second program studies the facilitation of specific language functions, statements, questions, and commands in both receptive and productive modalities. Specific factors which will be studied include the relationship between the child's everyday language and the language he produces in the training sessions, the degree of teacher involvement in the development of the program, and the degree of child/child interaction in both training and classroom situations.
Duration: 1973-1977.
Cooperating group(s): Social Science Research Council.

36-HH-2 CHARACTERISTICS OF CHILDREN IN SPECIAL SCHOOLS AND HOSPITAL SCHOOLS FOR THE SEVERELY EDUCATIONALLY SUBNORMAL IN NORTHWEST ENGLAND

Investigator(s): Donald Preddy, B.Sc., Project Director, Hester Adrian Research Centre, University of Manchester, Manchester M13 9PL, England.
Purpose: To study the characteristics of severely educationally subnormal children; to investigate the relationships between these characteristics and the children's development and subsequent progress; to conduct a semilongitudinal study of children's assessment scores over a 4-year period; and to relate educational progress during this period to other factors.
Subjects: Approximately 6,000 severely educationally subnormal children from 90 schools within a 35-mile radius of Manchester, England.
Methods: The main body of data collection involves the use of three questionnaires. First, a questionnaire will be circulated that covers such questions as the nature of the school premises, numbers of children and staff, the functions of the staff, and visits from other professionals. A second questionnaire will seek basic information about each child. Finally, each school will be visited to study contacts with parents, equipment held, and activities inside and outside school. A number of developmental charts, rating scales, and other assessments will be used to determine the progress of the children. Particular attention will be given to the assessment of those skills that facilitate a maximum of independent functioning.
Duration: 1973-1977.
Cooperating group(s): Department of Education and Science.

36-HJ-1 STAFF-CHILD INTERACTION INCREASED THROUGH SCHEDULED ACTIVITIES

Investigator(s): H. Robert Quilitch, Ph.D., Director, Department of Psychology, Nevada Mental Health Institute, Box 2460, Reno, Nevada 89505.
Purpose: To determine ways of increasing the amount of daily interaction between staff and institutionalized mentally retarded children.
Subjects: 25 severely and profoundly mentally retarded persons, both sexes, ages 15 to 55.
Methods: An observer counted the number of residents being attended to or interacted with by any staff member every 5 minutes for 1 hour. These figures were added and averaged each day and divided by the population to produce the daily percentage of residents interacting with staff. A second observer made reliability observations from time to time. These observations were carried out when staff had no particular activity assignment and when their supervisor gave them specific assignments.
Findings: Staff interact with children at a much higher rate when they are assigned to do so than when left to freely structure their own activities.
Duration: July 1975-completed.

Gifted

36-IA-1 SUBJECTIVE EVALUATION OF A PROGRAM FOR GIFTED ELEMENTARY STUDENTS

Investigator(s): Pamela V. Norman, M.A., Project Director, Academically Talented Program, Brielle School, 605 Union Lane, Brielle, New Jersey 08730.
Purpose: To collect evaluative data relating to a pilot program for gifted elementary students; to evaluate the program through quantification of subjective data; and to recommend program modifications based upon the findings.
Subjects: Eight boys and eight girls, ages 10 to 12.
Methods: The subjects comprised the top 4 percent of their respective grades in Brielle School in achievement and intelligence. Formal, written and informal, and verbal evaluations of the program by students, parents, classroom teachers, the project director, and administrators were collected. Data from September, February, and June were quantified and analyzed.
Findings: Subjective evaluation proved to be a valuable tool for assessing an enrichment program. The only major objective which was not met at a satisfactory level was that relating to the involvement of the classroom teachers.
Duration: August 1974-July 1976.
Cooperating group(s): Local Board of Education.

36-IA-2 STUDY OF VERBALLY GIFTED YOUTH

Investigator(s): Robert Hogan, Ph.D., Associate Professor; and Catherine Garvey, Ph.D., Lecturer, Department of Psychology, Johns Hopkins University, 34th and Charles Streets, Baltimore, Maryland 21218.
Purpose: To identify and facilitate verbal talent in early adolescence.

Subjects: 1,500 highly gifted (verbally and humanistically) adolescents, ages 12 to 15.
Methods: Parent and teacher nomination of junior high school students and verbal scores on the Scholastic Aptitude Test (SAT-V) are described as primary assessment tools. Mathematically and verbally gifted youngsters are compared. Examined are features of a summer enrichment program including a creative writing course (requiring outside reading, writing assignments, and a seminar-workshop in the poetry, fiction, and drama genres); a social science course (in first-year college level anthropology);and evaluation procedures (including tests of improvement in convergent and divergent thinking).
Findings: Overall the enrichment sample is described as bright, socially perceptive, and potentially creative, with the boys characterized as introverted, theoretically oriented, and socially reserved; and the girls extroverted, action-oriented, and socially outgoing. Seventh and eighth graders with very high scores on SAT-V were found to be capable of doing college level work in the social sciences. In terms of the ontogenesis of intelligence, enrichment programs (such as the ones put together by the project) would not be suitable for students much younger than 12. The capacity to perform formal operations seems to emerge around 11 or 12, and high IQ scores apparently confer to no advantage in the developmental process. Students with high scores for SAT-V seem remarkably similar to students with high scores for SAT-M, with only a few exceptions. It seems that high SAT-V scores are a necessary but insufficient predictor of accomplishment in the social sciences. A more complete analysis of the nature of verbal giftedness will have to take into account talents and dispositions beyond those reflected on SAT-V; e.g., social acuity and insight, motivational and personality variables. Finally, it appears that enrichment programs designed for the verbally gifted may lead to certain qualifiable outcomes: vocabulary scores increase and, with the proper training, so do scores on measures of divergent thinking such as the Guilford Consequences Test and the Remote Associates Test.
Duration: September 1972-August 1977.
Cooperating group(s): Spencer Foundation, Chicago.
Publications: (1) McGinn, P. V. Verbally gifted youth: Selection and description. In D. P. Keating (Ed.), *Intellectual talent: Research and development.* Baltimore: Johns Hopkins Press (in press). (2) Viernstein, M.C. and Hogan, R. Parental personality factors and achievement motivation in talented children. *Journal of Youth and Adolescence* (in press).

36-IA-3 DEVELOPMENTAL PROCESSES IN GIFTED YOUNG CHILDREN

Investigator(s): T. F. Naumann, Ph.D., Professor; and Larry M. Sparks, Ph.D., Associate Professor, Department of Psychology, Central Washington State College, Ellensburg, Washington 98926.
Purpose: To describe processes of development in gifted children, 2 years of age and older, in order to provide guidelines for their effective childrearing and education.
Subjects: Girls and boys, older than 2 years, who are at least 1.5 standard deviations above the mean on two or more developmental indices, including social competencies and mental abilities. Since 1972, about 15 children have been identified and others are periodically added.
Methods: Two to 3½-year-old children, identified as gifted, are placed with average children in a daily Montessori-type program. Each child is evaluated every 6 months for (1) social competencies on the Preschool Attainment Record, (2) mental abilities on the Stanford-Binet, and (3) psycholinguistic abilities on the Illinois Test of Psycholinguistic Abilites. Profiles over time are made, including analysis in terms of Guilford's structure-of-intellect (SI) model. Home environment analyses and behavioral interaction studies are made periodically. Data are being computerized.
Findings: Initial findings indicate that gifted young children (1) have apparently distinct SI

profiles which change systematically over time, and (2) have rather diverse behavioral interaction patterns. Certain home environment variables seem to correlate significantly with early giftedness.
Duration: 1972-continuing.
Publications: (1) Naumann, T. F. and Sparks, L. M. *Developmental processes in gifted young children: Brief of project and list of reports.* Ellensburg, Washington: Central Washington State College, Department of Psychology. (2) Piper, L. M. and Naumann, T. F. *Home environment variables and gifted young children: An ecological inquiry.* Ellensburg, Washington: Central Washington State College. (Order from College Bookstore. Price, $3.50.)

Emotionally Disturbed and Mentally Ill

36-JA-1 A DESCRIPTIVE PROFILE FOR CHILD BEHAVIOR PROBLEMS AND SOCIAL COMPETENCE

Investigator(s): Thomas M. Achenbach, Ph.D., Research Psychologist, Child Research Branch, National Institute of Mental Health, Building 15K, Bethesda, Maryland 20014.
Purpose: To develop a factor-analytically based descriptive profile for use in diagnosing, researching, prognosticating, and communicating about child psychopathology.
Subjects: Approximately 1,000 boys and girls, ages 4 to 16.
Methods: The parents of children (who were seen in child guidance clinics, pediatric practices, residential treatment centers, and juvenile courts) filled out checklists and social competence measures. The data were factor analyzed and put into a normative profile form.
Findings: Instruments have been developed and pilot tested. Initial analyses reveal viable clusters.
Duration: 1974-1976.
Publications: Achenbach, T. M. *Developmental psychopathology.* New York: Ronald Press, 1974.

36-JC-1 HYPERACTIVE CHILDREN AS ADULTS

Investigator(s): Gabrielle Weiss, M.D., Clinical Director; and Lilly Hechtman, M.D., Staff Psychiatrist, Montreal Children's Hospital, 2300 Tupper Street, Montreal, Quebec, Canada.
Purpose: To evaluate the outcome of hyperactivity in childhood for adult life.
Subjects: Experimental group: 70 subjects, ages 17 to 24, who had been to the hospital clinic for severe chronic hyperactivity. Control group: 50 normal subjects, ages 17 to 24, volunteers from the schools the experimental subjects attended. All subjects were selected for study when they were between ages 10 and 15.
Methods: The experimental subjects were initially assessed when they entered the clinic for problems of severe chronic hyperactivity. They were followed for several years and were recalled 10 years after initial evaluation for this study. To differentiate between the experimental and control groups, the following tests were administered: Wechsler Adult Intelligence Scale, California Psychological Inventory, and SCL 90 (a scale of psychopathology filled out by the subject). A psychiatric assessment (by open-ended standard psychiatric interview) and the Brief Psychiatric Rating Scale were completed; and the subjects' parents

filled out the Katz Scale. Cognitive styles were assessed by the Stroop Test, the Embedded Figures Test, and the Matching Familiar Figures Test. The subjects' work and school records (university, junior college, or high school) were assessed and an EEG was given. The data will be analyzed by analysis of variance to determine if differences occurred between the experimental and control subjects on the various measures.
Duration: April 1974-September 1976.
Publications: A paper presented at the Canadian Psychiatric Association Meeting, Alberta, Canada, September 1975: Weiss, G.; Hechtman, L.; Wener, A.; Finkelstein, B.; and Benn, R. Hyperactives as young adults: A preliminary report.

36-JC-2 BRIDGE PROGRAM: YEAR-ROUND PSYCHOEDUCATIONAL PROGRAM FOR CHILDREN WITH EMOTIONAL PROBLEMS

Investigator(s): Steven J. Apter, Ph.D., Assistant Professor; and Berj Harootunian, Ph.D., Associate Professor, Institute for Community Development, Syracuse University, 204 East Jefferson Street, Syracuse, New York 13210.
Purpose: To evaluate a demonstration program designed to keep children in a regular elementary school program.
Subjects: Approximately 20 girls and boys per year, ages 7 to 12, who are primarily from inner city schools.
Methods: The research involves a multimethods design using school performance, academic and behavior self-concept measures, behavioral reports, and other measures still in the design stage.
Duration: January 1974-June 1977.
Cooperating group(s): National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-JE-1 THE EARLY NATURAL HISTORY OF CHILDHOOD PSYCHOSIS

Investigator(s): Henry N. Massie, M.D., Coordinator, Mental Health Services for Children, Division of Outpatient and Community Services, San Francisco General Hospital, 1001 Potrero Avenue, San Francisco, California 94110.
Purpose: To study home movies that families have made of children who have developed early childhood psychoses.
Subjects: Children who exhibit signs of early childhood psychosis.
Methods: Home movies that families have made in the normal course of home movie making are studied in cases where the child has later developed an early childhood psychosis. They are compared to control populations of films of children with no psychiatric diagnosis and with a neurotic diagnosis. The infancy portion of the movies are studied (1) for indications of initial disturbances of the infant's attachment to the mother and the mother's attachment to the infant, (2) for signs of neurological disturbance and signs of constitutional qualities, and (3) for the earliest appearance of signs of early childhood psychosis and their development into symptoms. The films provide a prospective-like documentation.
Findings: To date results indicate that the psychotic children are more quiet and atonic in the first weeks of life than controls. There is a trend for the mothers to either not reciprocate or to block their child's normal attachment attempts. Symptoms first appear in the second 6 months of life.

Duration: 1972-1976.
Cooperating group(s): Skaggs Foundation.
Publications: Massie, H. N. The early natural history of childhood psychosis. *Journal of American Academy of Child Psychiatry,* Fall 1975.

35-JE-2 AN EXPERIMENTAL PROGRAM FOR AUTISTIC-LIKE CHILDREN

Investigator(s): Suzanne D. Hill, Ph.D., Professor, Department of Psychology; and Emily Wagner, B.A., University of New Orleans, Lake Front, New Orleans, Louisiana 70122; Patti Mosman, B.A., Medical School, Louisiana State University, 1542 Tulane Avenue, New Orleans, Louisiana 70122; John R. Pleune, Ph.D., Psychologist, Southeast Louisiana Hospital, Mandeville, Louisiana; Carol Deinhardt Mawson, M.A., Director, Women's Program, Loyola University, New Orleans, Louisiana 70115; and Karen Kuehne Harrison, M.A., Louisiana State University, Baton Rouge, Louisiana 70803.
Purpose: To develop language, social skills, and problem solving behaviors of young autistic-like children; and to train parents to use the techniques found useful with their children in the nursery school.
Subjects: 11 children, ages 5 to 8, who were hospitalized after they were 5 years old.
Methods: A nursery school using a behavioral approach to learning was established, and the children's parents were trained to use the techniques found useful with their children in the nursery school. Children were initially tested using Creak's Nine Point Scale for Autism and after 6 to 12 months on the McCarthy Scale of Children's Abilities. In order to determine the children's developmental level upon entrance to the program, a nonverbal test was developed in which the children's abilities were measured through a series of sorting tasks. The abilities measured included abilities (1) to discriminate color, form, and size dimensions of three-dimensional forms; (2) to form concepts using meaningful pictures; and (3) to abstract a sequential pattern. Upon entering the program, the children's reactions to a novel situation were also observed under three conditions: by an observer at the far end of the room, by an observer sitting passively next to the child, and by an observer sitting next to the child and actively interacting with him. The sessions were videotaped and scored at a later date for the amount the child manipulated the toys, made inappropriate and appropriate vocalizations, stereotyped behaviors, and interactions with observers. The children were initially taught in a one-to-one situation using food and social reinforcement to establish new behaviors. Withdrawal of attention was used to eliminate inappropriate responses. As their behavioral repertoires increased, the children were placed in small social groups for all activities and the effort was toward developing spontaneity in language and other behaviors. Parents were first trained in a standard situation adapted from Ora (1970), which required them to direct the child's play with a series of toys, changing toys every 2 minutes. During baseline training, the parents were asked to lead the child in play with the toys in a manner to which they were accustomed and comfortable. The training was divided into two phases: Intervention I and Intervention II. During Intervention I, the parents were instructed on how to work with their children, and during Intervention II, the parents used the techniques developed in Intervention I. Parents were also visited by members of the Child Development Center team while their children were on leave from the hospital. The team helped them continue using the training techniques in the home.
Findings: The results indicate that autistic-like children are able to develop abstract categorization skills, although their spontaneous use of them is difficult to establish. Generalization of newly developed social and language skills is found if the child is required to use them in a variety of settings and with a variety of persons. Parents increase their

performance expectations for their children after they learn to use behavioral techniques in working with them in a problem solving situation. As parents become more competent in using the techniques, their confidence and pleasure in their children increases.
Duration: 1970-continuing.

36-JE-3 CONDITIONING OF SKIN CONDUCTANCE AND HEART RATE IN PSYCHOTIC AND NORMAL CHILDREN

Investigator(s): Leonard White, Ph.D., Senior Research Scientist, Department of Psychology, Long Island Research Institute, Carleton Avenue, Central Islip, New York 11722.
Purpose: To evaluate differential rates of autonomic response that may be related to subtle neurological impairments of etiological significance.
Subjects: Experimental group: 11 boys and 4 girls, ages 6 to 14, with childhood psychoses in the absence of organic impairment. The children had been unmedicated for at least 6 months, lived at home, and attended a day school program for autistic children. The 14 normal control subjects were matched to the experimental group on the basis of age and sex.
Methods: Each subject had two visits to the experimental laboratory. During the brief first session, which served to acquaint the subject with the procedures and setting, three stimulus tones were presented through earphones while heart rate and skin conductance were recorded. At a second session, 2 to 7 days later, a more complete trial of classical conditioning, generalization, and extinction was presented. The primary data analysis was a group by trial analysis of variance. Correlational analysis was used to study the interdependence of autonomic measures. If there was a significant difference in the between-group variances obtained, teacher ratings of behavior were used to subclassify the experimental group.
Findings: Teachers' and teacher assistants' ratings of language, object relations, motor skills, social relations, and global severity of illness have been found to be reliable but significantly interrelated.
Duration: January 1975-completed.
Cooperating group(s): Suffolk Child Development Center, Bay Shore, New York; National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.
Publications: A preprint of the study is available from the investigator.

36-JF-1 FOLLOW-UP OF INFANTS AT RISK FOR SCHIZOPHRENIA

Investigator(s): Barbara Fish, M.D., Professor of Psychiatry, Child Psychiatry-Mental Retardation Program, School of Medicine, University of California at Los Angeles, 760 Westwood Plaza, Los Angeles, California 90024.
Purpose: To determine the overt and covert signs of mental disorder in the offspring of schizophrenic and nonpsychotic mothers.
Subjects: 24 subjects (10 males, 14 females: 14, age 22; 10, age 15). Twelve subjects are offspring of schizophrenic mothers. When they were 10 years old, independent evaluators diagnosed two subjects as childhood schizophrenics; four with severe personality disorders (in the schizophrenic spectrum); seven as moderately disturbed; and 11 with mild or no symptoms.
Methods: The development of the subjects was followed in detail during their first 2 years of life. At 15 and at 22 years of age, respectively, all subjects are given a battery of psychological tests and a semistructured interview. The tests include six subtests of the Wechsler Intelligence Scale

for Children, eight cards of the Thematic Apperception Test, four cards of the Rorschach Inkblot Test, Word Association Test, nine proverbs and the Minnesota Multiphasic Personality Inventory. The entire session is tape recorded. In addition to independent standard evaluations of the test material, the verbatim records will be analyzed for clinical and subclinical thought disorder using H. Johnston's revised delta index, Margaret Singer's method of analyzing Rorschach responses, and Jim Ed Jones's method for analyzing the Thematic Apperception Test responses based on the Singer method. The data will be analyzed for group differences between the offspring of schizophrenic and nonpsychotic mothers and will also be evaluated according to the early predictions of vulnerability and the developmental deviations in the first 2 years of life as originally made by Fish. This battery is similar to that administered in the Rodnick-Goldstein Family Project of Adolescents at Risk (UCLA), which will make it possible to compare the children and young adults in both studies. The Rorschach data will also be compared with normal and disturbed populations studied by Singer.

Duration: October 1974-October 1976.

Cooperating group(s): Harriett Ames Charitable Trust, New York.

Publications: Fish, B. Biological antecedents of psychosis in children. In D. X. Freedman (Ed.), *The biology of the major psychoses.* New York: Ravens Press (in press).

36-JF-2 TRIIODOTHYRONINE STUDY IN SCHIZOPHRENIC CHILDREN

Investigator(s): Magda Campbell, M.D., Associate Professor, Department of Psychiatry, and Children's Psychopharmacology Unit; Arthur M. Small, M.D., Clinical Assistant Professor, Department of Psychiatry; Charles S. Hollander, M.D., Professor, Department of Medicine, New York University Medical Center, 550 First Avenue, New York, New York 10016.

Purpose: To explore the therapeutic effects of the drug triiodothyronine (T3) in young schizophrenic children.

Subjects: 30 boys and girls, ages 2 to 7, diagnosed as autistic schizophrenics, functioning on a retarded level.

Methods: The research design entails a double-blind study with cross-over design. Half of the patients will first receive T3 for 8 weeks followed by a switch to matching placebo for an equal period of time. The other half of the patients begin the trial on placebo and are subsequently switched to T3. Assignment will be made randomly. Assessment instruments include pediatric psychiatric rating scales, cognitive battery, laboratory tests, EEG, and DSM II, and the ECDEU Pediatric Packet (which includes Children's Personal Data Inventory, Children's Symptom History, Children's Psychiatric Rating Scale, Clinical Global Impressions, Dosage Record and Treatment Emergent Symptoms, Children's Diagnostic Scale, Children's Diagnostic Classification, Patient Termination Record, and Children's Behavior Inventory). The data analysis will be done by the George Washington University Biometric Laboratory.

Findings: On the basis of previous findings, T3 appears to be a promising agent in the treatment of preschool schizophrenic children.

Duration: Spring 1974-Fall 1975.

Cooperating group(s): National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: (1) Campbell, Magda *et al.* Liothyronine treatment in psychotic and nonpsychotic children under 6 years. *Archives of General Psychiatry,* 1973, 29, 602-608. (2) Campbell, Magda and Fish, B. T. Alone in schizophrenic children. *Psychopharmacology Bulletin,* 1973, 9, 32-33. (3) Campbell, Magda *et al.* Response to triiodothyronine and dextroamphetamine: A study of preschool schizophrenic children. *Journal of Autism and Childhood Schizophrenia,* 1972, 2, 343-358.

36-JF-3 CHILD AND ADOLESCENT PSYCHIATRY IN CULTURAL PERSPECTIVE

Investigator(s): M. K. Opler, Ph.D., Professor, Psychiatry and Anthropology Departments. State University of New York at Buffalo, 4242 Ridge Lea Road, Buffalo, New York 14226.
Purpose: To define child development problems relating to schizophrenia, depression, and suicide.
Subjects: Boys and girls, ages 1 to 20, from different cultural and ethnic groups.
Methods: The research design involves psychological testing with the Wechsler Intelligence Scale for Children, the Thematic Apperception Test, and others. Case finding, records, participant interviews, and observations will also be used to collect data.
Findings: Cultural and social aspects influence mental health.
Duration: 1973-continuing.
Publications: The investigator has chapters in two books edited by J. G. Howells: *Modern perspectives in international child psychiatry*, and *Modern perspectives in adolescent psychiatry*. London, England and Edinburgh, Scotland: Oliver and Boyd.

36-JH-1 EVALUATION CONFERENCES: DIAGNOSIS AND TREATMENT DECISIONS IN A CHILD GUIDANCE CENTER

Investigator(s): Juergen Homann, M.D., Clinical Director; and Max G. Magnussen, Ph.D., Chief Psychologist, Pittsburgh Child Guidance Center, 201 DeSoto Street, Pittsburgh, Pennsylvania 15213.
Purpose: To assess the actual relationship between diagnosis and treatment implemented for a given child and his family; and to test the hypothesis that diagnostic conference chairmen have preferences for diagnostic labels and for certain dispositions.
Subjects: Diagnostic conference reports of seven senior child psychiatrists and clinical records of 175 child patients, ages 5 through 16, referred for a child psychiatric evaluation.
Methods: The effectiveness of a conference was estimated on (1) dropout rate, and (2) implementation rate of treatment decision during two time periods. The research was designed to examine correlations between diagnosis in terms of DSM-II and GAP report with 12 treatment options decided on through the diagnostic conference. A further check on treatment methods actually utilized 3 and 6 months after the diagnostic conference yielded additional information regarding correlations of treatment methods proposed and treatment options utilized.
Findings: Results indicate that (1) diagnostic conference chairmen have preferences for certain diagnostic labels, (2) diagnostic conference chairmen have preferences for certain treatment dispositions, and (3) the question of effectiveness of the diagnostic conference as measured by the dropout rate (20 percent clinic wide average) suggests a considerable waste of clinical and patient resources. The fact that after 6 months only 9 percent of the original treatment decisions were changed indicates this function is relatively effective. Treatment outcome is now being studied as a third variable.
Duration: 1972-completed.
Publications: Results are available from the investigators.

36-JH-2 PRESCRIPTION OF PSYCHOTROPIC DRUGS FOR CHILDREN

Investigator(s): Erika Kreula, Medical Student, Department of Public Health Sciences, University of Tampere, Vuolteenkatu II, Tampere, Finland.
Purpose: To elucidate the frequencies of use of psychotropic drugs in children's therapy; and to investigate the proportions of different drugs, the doses, and whether the doctor's specialty affects prescription of psychotropic drugs.
Subjects: The study involves all prescribed drugs in 1974 in Tampere, Finland for children born from 1965 to 1974.
Methods: The experimental group, the children receiving psychotropic drugs, was compared to a control group for age, sex, and the doctors' specialities.
Duration: January 1975-November 1976.

36-JI-1 TEACHING HOMES FOR SEVERELY DISTURBED CHILDREN

Investigator(s): O. Ivar Lovaas, Ph.D., Professor, Department of Psychology, University of California at Los Angeles, Los Angeles, California 90024; Dennis C. Russo, Ph.D., Staff Psychologist; and William Miner, M.A., Director, Children's Learning Laboratory, Children's Treatment Center, Camarillo State Hospital, Box A, Camarillo, California 93010.
Purpose: To develop and evaluate the effectiveness of teaching homes (small group, family-like treatment environments consisting of a married couple and four to six children) as opposed to the effectiveness of traditional treatment techniques for severely disturbed children (autistic, psychotic, or with behavioral adjustment problems); and to develop and evaluate parent training procedures.
Subjects: All children, ages 2 to 14, currently residing in or recommended for residence in state mental institutions, who have histories of multiple placement failures. Approximately 60 children will be treated in teaching homes, and 60 matched children will receive other treatment.
Methods: A comparison of the effects of teaching homes and other treatments will be made on a variety of dependent measures (standardized tests, school placement and success, measures of behavioral improvement on self-care, and social and home care skills). Prior to group assignment, children will be assessed and matched on age, sex, and diagnosis and randomly assigned in pairs to treatments. A 2 X 2 X 3 repeated measures ANOVA design will be used to analyze treatment effects as well as analysis by behavioral measure.
Findings: Results indicate that children may be successfully placed, and that parents are trainable to continue treatment.
Duration: January 1975-August 1980.
Cooperating group(s): Oregon Research Institute; National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.

36-JI-2 SIX WEST INVESTIGATION OF FOLLOW-UP TRENDS

Investigator(s): Diane Reardon, Ph.D., Staff Psychologist, Neuropsychiatric Institute, University of California at Los Angeles, 760 Westwood Plaza, Los Angeles, California 90024.
Purpose: To describe the outcome of psychiatric hospitalization of developmentally disabled adolescents in terms of changes in admitting problems at follow-up.
Subjects: 250 boys and girls, ages 11 to 18.

Methods: The research design is longitudinal using descriptive data. A structured telephone interview and ratings of clinical records will be used to collect the data. The clinical samples will be described in terms of demographic information and behavior problems.
Duration: October 1971-continuing.

Socially Deviant

36-KA-1 SOCIALLY DEVIANT BEHAVIORS OF THAI CHILDREN

Investigator(s): Preeja Dhunma, Ed.D., Bangkok Institute for Child Study; Sukhumvit 23 Bangkok-10, Thailand.
Purpose: To compile relevant data about deviant acts as perceived by teachers of adolescents, and to determine the extent of agreement and/or conflict between adolescents and teachers regarding their opinions of the deviant acts.
Subjects: 813 classroom teachers and 992 adolescents from 15 government and 15 private schools in metropolitan Bangkok.
Methods: Sixty teachers were requested to recollect and record acts of deviant behavior which they had experienced in their contacts with adolescents. From the reports of these teachers, items on deviant acts were compiled, and the term "socially deviant behavior" was defined accordingly as behavior that appeared to be (1) not morally right, (2) prohibited by traditions, customs, and mores of the society, (3) forbidden by rules and regulations of the institutions, and (4) against group codes but not yet against the code of laws. On the basis of the information obtained from the teachers, a deviant behavior questionnaire form was devised consisting of 45 items on situations involving relationships with parents, teachers, and peers. Relationship with parents included items on reactions to parents' reports to teachers, ways to approach parents, reactions to conflicts between household work and school assignments, reactions to parents' advice or remarks, and justifications for securing parents' permission to go out with friends. Relationship with teachers included items on ways of getting school projects done, reactions to school rules and regulations, problems of classroom discipline, and service to teachers. Relationship with peers included items on aids given to friends, keeping appointments, respect shown to friends, mutual encouragement, and care of friends' properties. The deviant behavior questionnaire was administered to teachers and students. In analysis of data, the method of rank correlation was employed to determine agreement and/or conflict of opinions between adolescents and teachers, between male and female teachers, between government and private school teachers, between boys and girls, and between government and private school students.
Findings: Adolescents and teachers were found to be in agreement on most of the situations in the questionnaire. Only some conflicts of opinions were revealed in the situations concerning schooling and classroom discipline. There were no striking conflicts of opinion between male and female teachers, between government and private school teachers, or between teachers of lower and upper secondary schools. In terms of years of service, it was found that the teachers in service more than 30 years had a tendency to show conflicts of opinion with others. As for adolescents in three different types of schools (boy, girl, and coeducational), there was neither age nor sex difference in their opinions on deviant behavior.
Duration: June 1971-completed.
Publications: (1) Dhunma, P. *et al.* Research Report No. 13, Bangkok Institute for Child Study. (2) Dhunma, P. and Koedkietpongse, T. Research Report No. 15, Bangkok Institute for Child Study. (Both publications are in the Thai language with an English summary.)

Juvenile Delinquency

36-KD-1 GIRLS IN NEED OF PROTECTION

Investigator(s): J. A. Byles, D.S.W., Associate Professor, Department of Psychiatry, Medical Centre, McMaster University, 1200 Main Street West, Hamilton, Ontario, Canada L8N 4J9.
Purpose: To identify the social processes by which juvenile girls become identified as problematic in the community and are removed from parental custody by court order under The Child Welfare Act.
Subjects: Approximately 60 girls, age 15, who have been taken into care of a children's aid society as unmanageable and beyond control.
Methods: The data were assessed by computer using pathway analysis. Data on all subjects were abstracted from records of children's aid societies, court, police, schools, and health services in contact with the subjects. Interviews will be conducted with the subjects and their parents.
Duration: April 1975-March 1977.
Cooperating group(s): Ontario Mental Health Foundation.
Publications: Byles, J. The Arrell Home: Detention for juveniles. *Canadian Journal of Criminology and Corrections*, January 1975, 17(1), 69-77.

36-KD-2 SOCIAL PSYCHOLOGICAL TYPOLOGIES OF DELINQUENTS

Investigator(s): T. Brennan, Ph.D., Senior Research Associate, Behavioral Research Institute, 2305 Canyon Boulevard, Boulder, Colorado 80302.
Purpose: To examine prosocial and antisocial orientations among youth through the use of typological perspectives.
Subjects: 4,000 female and male high school teen-agers, ages 10 to 18.
Methods: The research involves a secondary analysis of five data sets that deal with a variety of social psychological theories of delinquency. Intensive examinations will be conducted of the etiological characteristics of youth who have committed five offenses: vandalism, theft, runaway, violence against persons, drug use. Male and female differences within each of these subsets will be examined across the full battery of predictor-etiological variables. The representativeness of the samples and the theoretical breadth of the variables allow a study of prosocial and antisocial orientations. An examination of differential causation of both prosocial and antisocial orientations will be conducted. This will involve the use of rigorous statistical profile-analytic and typological methods. The multivariate approach to typology construction should clarify the manner in which the different causal theories combine with each other to produce variations in social behavior.
Duration: May 1975-December 1976.
Cooperating group(s): National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.
Publications: (1) Brennan, T. *The social psychology of runaway youth.* Lexington, Massachusetts: Lexington Books (in press). (2) Brennan, T. *et al. The incidence and nature of runaway behavior.* Boulder, Colorado: Behavioral Research and Evaluation Corp., 1975.

36-KH-1 ALCOHOL ABUSE TREATMENT PROJECT

Investigator(s): William W. Treanor, M.A., Executive Director; and Therese A. M. van Houten, M.S.W., Research Coordinator, National Youth Alternatives Project, 1830 Connecticut Avenue, N.W., Washington, D. C. 20009.
Purpose: To evaluate the effectiveness of alcohol counseling by trained professional and paraprofessional counselors in representative runaway programs; and to document the incidence of alcohol abuse and alcoholism among runaway youths and their families.
Subjects: 482 runaway youths, 193 males and 289 females, ages 10 to 17, at 16 nationally representative runaway centers. Maximum monthly sample is 30 youths per center, depending on total intake (range is 0 to 30, average is as yet unknown).
Methods: The evaluation of the training and of the counseling is essentially a comparative study. There is no control group. Data are collected by the counselors. Primary instrument is an alcohol self-report survey sheet designed by National Youth Alternatives Project and administered by the counselors. Statistical treatment of all data consists of correlational analyses.
Duration: October 1974-September 1977.
Cooperating group(s): National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.

Corrections

36-KQ-1 EVALUATION OF THE IMPACT OF THE POSITIVE PEER CULTURE MODALITY ON DELINQUENT YOUTHS IN TWO MICHIGAN TRAINING SCHOOLS

Investigator(s): Jane Holmes, M.A.; and Alvin Horn, B.A., Social Research Analysts; and Adria Libolt, B.A., Research Assistant, Social Services Evaluation and Analysis Division, Michigan Department of Social Services, 300 South Capitol Avenue, Lansing, Michigan 48913.
Purpose: To evaluate the impact of the positive peer culture modality on delinquent youths while they reside in state institutions and after their release.
Subjects: 250 male and 100 female delinquents, ages 12 to 19, who have completed various stages of confinement and release.
Methods: Pre- and posttests were administered which included a classification system, a self-esteem scale, a social desirability scale, a nurturance scale, and a locus of reinforcement scale. A tracking system (which monitors behavior in the institution on a weekly basis) was employed, and a 3-month and 1-year follow-up after release were completed.
Findings: To date the findings indicate (1) attitudes of youths have changed in the desired direction, and (2) a youth does best in his fifth month of the program. Most findings remain tentative.
Duration: January 1973-Spring 1975.
Cooperating group(s): Law Enforcement Assistance Administration, Michigan Office of Criminal Justice Programs, Michigan Department of Social Services.

36-KR-1 AN EVALUATION OF THE IMPACT OF PLACEMENT SERVICES ON THE EFFECTIVENESS OF SUBSEQUENT SERVICES RENDERED TO DELINQUENT YOUTH

Investigator(s): Laurence J. Max, M.A., Social Research Analyst; and Thomas B. Downs, B.A., Social Research Analyst, Social Services Evaluation and Analysis Division, Michigan Department of Social Services, 300 South Capitol Avenue, Lansing, Michigan 48913.
Purpose: To evaluate the impact of placement services on the relative effectiveness and cost effectiveness of institutional and community based services rendered to delinquent state wards.
Subjects: 1,200 delinquent youths, ages 13 to 19, who have been committed to state wardship in Wayne County, Michigan during the project period.
Methods: Baseline indices are calculated for each youth on the basis of age, sex, offense history, etc. All youths are tracked subsequent to placement on a quarterly basis. Longitudinal data collected on these youths form the basis of outcome measures, which are combined with cost data and subjected to a computerized relative effectiveness and cost effectiveness analysis.
Findings: Youths who received special diagnostic and preplacement services are likely to achieve more effective and cost effective outcomes in their initial placements. Irrespective of a youth's offense history, community placements, in general, were more effective and cost effective than institutional placements.
Duration: August 1971-June 1975.
Cooperating group(s): Law Enforcement Assistance Administration, Michigan Office of Criminal Justice Programs, Michigan Department of Social Services.
Publications: *Decentralization project: Year-end research and evaluation report, FY 1972-73.* Lansing: Social Services Evaluation and Analysis Division, Michigan Department of Social Services, November 1973.

THE CHILD IN THE FAMILY

Family Relations

36-LA-1 PATTERNS OF MOTHER-INFANT INTERACTION IN THE FIRST YEAR

Investigator(s): Evelyn B. Thoman, Ph.D., Associate Professor, Department of Biobehavioral Sciences, University of Connecticut, Horsebarn Road, Building 4, Storrs, Connecticut 06268.
Purpose: To identify ways in which individual infants show persisting patterns of behavior during the first years of life; and to identify ways in which the infant influences and is, in turn, influenced by the mother-infant relationship during this time.
Subjects: Three groups of 10 infants each: clinically normal, premature, and full-term, small-for-gestational age.
Methods: The subjects will be observed during the 3 days they are in the hospital. Mothers will be interviewed in order to obtain their consent to participate in the 1-year longitudinal study. During the neonatal period, the assessment measures will include Pandoral Index, Dubowitz Assessment for Gestational Age, Bell Suck-Frustration Test, Sleep-Wake State Observation of the Infant, and two observations of mother-infant interactions during feeding. Mother-infant observations and sleep-wake state observations will be taken on weeks 2, 3, 4, and 5. Sleep-state observations will be taken at 3, 6, and 12 months. At 1 year, developmental assessment and mother-infant observations will be made.
Findings: The data indicate (1) that there is consistency over time in patterns of organization of sleep-wake states, and (2) that some individual patterns of mother-infant interaction persist over the first year of life. For example, one infant throughout the first weeks of life consistently responded negatively to being held. At 1 year, this baby was held much less than the other infants observed; however, there was much more interaction between this mother and baby than between the other mother-infant pairs.
Duration: September 1972-September 1976.

36-LA-2 PARENT AND CHILD--WHAT'S THE SCORE?

Investigator(s): Betty Wagner, M.S., Assistant Professor; and Connie Steele, Ed.D., Assistant Professor, Child Development and Family Studies; and Sue Kiniry, Ed.D., Assistant Professor, Special Education, Texas Tech University, Lubbock, Texas 79409.
Purpose: To assess the needs of parents in preparing home learning environments for children.
Subjects: A population of 30 families with children, ages birth to 3. One-half of the population, children identified as developmentally delayed or high risk, were matched with normal children representing Anglo, Black, and Chicano ethnic groups.
Methods: Data were collected by videotaping families in everyday situations. TADPOLE "Q" (Tech Assessment and Development for the Preparation of Optimal Learning Environments), a parent questionnaire, was constructed to measure parental knowledge as compared to parental preparation of environments, as reflected in codings of videotaped behavior. Differences and correlations of parental behavior and knowledge will be statistically analyzed.

Duration: June 1974-August 1976.
Cooperating group(s): Institute for the Development of Family Resources and Institute for University Research-Education, Texas Tech University.
Publications: (1) Establishing mutual trust: A prerequisite for home based research. *Texas Tech Journal of Education,* 1975, 1(3). (2) How can I help my kids learn? *Dimensions,* June 1975. (3) A final report on TADPOLE will be completed by August 1976.

36-LA-3 ALCOHOLISM TRANSMISSION VIA FAMILY RITUAL

Investigator(s): Steven J. Wolin, M.D., Associate Clinical Professor of Medicine and Psychiatry, Center for Family Research, School of Medicine, George Washington University, 2300 Eye Street, N.W., Washington, D. C. 20037.
Purpose: To predict which families with an alcoholic parent will transmit this problem or illness to their children.
Subjects: 40 families with at least one alcoholic parent.
Methods: The 40 families were separated into two groups: 20 with at least one alcoholic child of adult age, and 20 families with adult children, none of whom are alcoholic. Structured interviews with parents and all children will reconstruct their family rituals in five areas: family ceremonies, dinner time behavior, disciplinary techniques, treatment of guests in the home, and alcohol consumption. Interviewers will rate for ritualization on four criteria: frequency and exactness of repetition, role stability for all family members, rigidity of interaction, and an underlying sense of approval for this behavior. A Sunday afternoon family dinner meeting will be held at the parents' home with all available children present. A trained interviewer will conduct a group session where consensus over individual recollections will be sought. Photograph albums will be used to support the discussion. This session will be taped for added interactional observations. A dossier will be compiled of all clinical data and the investigator will rate families as either subsumptive or distinctive. By removing all references of transmission to children, the dossier will then be blindly rated. Analysis of the data will demonstrate if subsumptive families transmit alcoholism with greater frequency than other families.
Findings: At the time of reporting, results were inconclusive. The investigator was impressed, however, with the extent to which family rituals and myths generate role behavior in the children of alcoholics.
Duration: September 1974-August 1977.
Cooperating group(s): National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.

36-LA-4 THE STATUS OF THE CHILD AND THE CHILD CARE SYSTEM

Investigator(s): Sarane Spence Boocock, Ph.D., Sociologist, Russell Sage Foundation, 230 Park Avenue, New York, New York 10017.
Purpose: To study (1) the lifestyles of children, (2) the structure or patterns of child caring arrangements, and (3) perception and status of children — what adults think about children and how they behave toward them.
Subjects: Four- and 7-year olds in six to eight different communities.
Methods: Interviews will be done by adults and by children, ages 10 to 12, on the daily lives of

children. The interviews will be structured to determine how children spend their time (where and with whom) and the kinds of responsibility they have. The information obtained by adults and the information obtained by children will be compared.

Findings: Many American children have rather impoverished lives in terms of people (both adults and other children) and interesting things to do. Many parents are feeling excessively burdened by the responsibilities of childrearing. Data collected by children presents children as more self-sufficient than data collected by adults.

Duration: January 1974-June 1977.

Publications: (1) Boocock, S.S. A cross-cultural analysis of the child care system. In Lilian Katz (Ed.), *Current topics in early childhood education.* Norwood, New Jersey: Ablex Publishing Corporation (in press). (2) A paper presented at the annual meeting of A.A.A.S., January 1975: Boocock, S. S. Children and society. In Arlene Skolnick (Ed.), *Children in society.* Boston, Massachusetts: Little, Brown and Company (in press).

36-LA-5 PARENT SATISFACTIONS AND DISSATISFACTIONS AND RELATED VARIABLES

Investigator(s): Catherine S. Chilman, Ph.D., Professor and Director, Family Development Institute, Center for Advanced Studies in the Human Services, School of Social Welfare, University of Wisconsin at Milwaukee, Milwaukee, Wisconsin 53211.

Purpose: To explore satisfactions and dissatisfactions of fathers and mothers and related demographic, psychological, social, and situational variables.

Subjects: A random sample of 465 largely white, middle class mothers and fathers of children, ages 1 to 18, from a suburban area of Milwaukee.

Methods: Through interviewer observations, a questionnaire was developed that has high internal reliability and satisfactory validity. The instrument covers the areas on demography, family background, marital family size and structure, employment, housing, health, social life, child care and homemaking arrangements, use of community resources, perception of children's problems, parental satisfactions and dissatisfactions of childrearing behaviors, and goals and values. Parent satisfaction scores were based on responses to key questions. High scoring and low scoring parents were compared by chi-square techniques.

Findings: Over two-thirds of both mothers and fathers expressed high satisfaction and deep involvement with parenthood and marriage. Although about half of the mothers were working, child care did not seem to be a problem. Significant differences between high and low satisfaction groups were almost entirely related to psychological variables, rather than to those pertaining to employment, income, community resources, housing, and health (probably related to middle class status). High self-esteem as a parent was centrally associated with high parent satisfaction. There were many more significant differences for maternal than for paternal groups. Marital satisfaction, satisfaction with own parents when a child, and greater acceptance of traditional female role were among the factors closely associated with high maternal satisfaction scores. There were high rates of approval of schools and special help from schools by both parents.

Duration: August 1973-completed.

Cooperating group(s): Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare; Wisconsin State Department of Health and Social Services.

Publications: A summary of the study is available from the investigator.

36-LA-6 THE INFANT CONDITIONS ITS MOTHER: EXPERIMENTS ON MOTHER-INFANT INTERACTION UNDERLYING MUTUAL ATTACHMENT ACQUISITION

Investigator(s): Jacob L. Gerwitz, Ph.D., Research Psychologist; and Elizabeth F. Boyd, Ph.D., Guest Worker, Laboratory of Developmental Psychology, National Institute of Mental Health Intramural Research Program, B2A-25, National Institutes of Health Clinical Center, Bethesda, Maryland 20014.

Purpose: To study the reciprocal mother-infant influence process by manipulating aspects of the mutual-conditioning process assumed to characterize their interaction in life settings.

Subjects: In a single subject design, each middle class mother of a normal 3-month-old infant served as her own control. Four mothers served as subjects in Experiment 1; four different mothers served as subjects in Experiment 2.

Methods: In an interactive context, each mother was asked to serve as experimenter in a study of whether infants could learn that their behaviors can have social consequences. Each mother was asked to provide these consequences by saying a short phrase immediately following (simulated representations of) one of her infant's behaviors (headturns to mother in Experiment 1; vocalizations in Experiment 2). In each experiment, another but incidental infant behavior (vocalizations in Experiment 1, headturns to mother in Experiment 2), simulated to be that of the mother's own infant, was identified for the mother as merely occurring in the situation. She was given neither instruction nor indication to attend to that behavior. The incidental infant behavior was then presented contingent on a maternal response. In Experiment 1, this response was her verbal phrase crossed with a smile; in Experiment 2, the response was her facial expression (nonsmile, partial smile, full smile, or clipped or sustained oral expression). The actual purpose of both experiments was to determine the reinforcing effectiveness for the maternal social response of the seemingly responsive, but incidental (simulated), behavior of her infant.

Findings: For each of the four mothers in Experiment 1, the contingent infant vocalizations functioned as reinforcers to condition verbal phrases (crossed with smiles). For each of the four mothers in Experiment 2, the contingent infant headturns toward the mother functioned as reinforcers to condition facial expressions. Thus, infant behaviors conditioned the maternal responses on which they were contingent. Mothers seemed unaware that their responses had been conditioned or that their infants' behaviors had been simulated.

Duration: 1973-1976.

Publications: An overview report is to appear in T. Alloway, L. Drames, and P. Pliner (Eds.), *Advances in the study of communication and affect.* Vol. 3. New York: Plenum Press, 1976.

36-LA-7 HOME AS A LEARNING CENTER

Investigator(s): Beatrice Paolucci, Ph.D., Professor, Family Ecology; and Norma Bobbitt, Ed.D., College of Human Ecology, Michigan State University, East Lansing, Michigan 48824.

Purpose: To identify the feasibility of families using the home as a center for learning in the areas of family life and occupations.

Subjects: A random probability proportionate to size sample of 108 blue collar families representing three stages of family life. The final sample consisted of 12 families with male spokespersons and 24 families with female spokespersons for each life cycle group.

Methods: The data were collected through surveying and interviewing the male and female family spokespersons. Identification of actual learnings was undertaken in the home, and commitment of family resources to home learning was made.

Findings: Male and female spokespersons were similar in responses as to what should be and was learned. More learning for family related rather than work related matters was pursued.

Although learning about values was viewed as most important, in terms of what should be learned, actual learnings pertained to feeding the family.
Duration: August 1974-completed.
Cooperating group(s): Curriculum Branch, Office of Education, U. S. Department of Health, Education, and Welfare.

36-LC-1 CONTRACEPTION, ABORTION, AND COUPLE DECISION MAKING

Investigator(s): Herbert Friedman, Ph.D., Director, Geneva Office, American Institutes for Research, P. O. Box 1113, Palo Alto, California 94302.
Purpose: To study fertility regulation behavior (under circumstances where both modern contraception and safe abortion are available) related to the degree of the couple's modernity and the degree of consensus and accuracy of mutual perception in regard to various subject matters.
Subjects: 1,200 Jewish urban couples (varied mainly by country of origin); and 400 Arab couples. Couples will be included in the sample if the wife is under age 35.
Methods: Desire for children and childrearing are the major topics under investigation. Data will be collected by personal interview, and the interviews will be carried out by means of a structured, mostly closed-ended questionnaire. Husbands and wives will be interviewed separately and independently of each other, giving them no chance to communicate about the questionnaire.
Duration: July 1974-July 1977.
Cooperating group(s): The Israel Institute of Applied Social Research; Center for Population Research, National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-LC-2 FAMILY FORMATION AND FERTILITY: KEY TRENDS AND PATTERNS

Investigator(s): Kingsley Davis, Ph.D., Director, International Population and Urban Research, University of California at Berkeley, 2234 Piedmont Avenue, Berkeley, California 94720.
Purpose: To obtain previously nonexistent information on illegitmacy and other related topics by special procuring of birth records available in the California State Health Department; and to initiate the collection of selected new data on various facets of family formation not available in existing records (in particular to follow up a sample of illegitimate and legitimate children in order to examine what happens to them).
Subjects: All birth records in California, and representative sample of about 2,000 of the births (732 illegitimate and 1,307 legitimate) occurring in California in 1967.
Methods: As part of a program of studies on changes in the family, the project personnel have traced trends in illegitimate and legitimate birth rates on a current basis in California (see publication references below) and are currently following the 1967 sample of births. Information is pooled from available birth, adoption, marriage, and divorce records. In the future, project plans are to attempt an interview survey of this sample of births.
Duration: June 1970-June 1977.
Cooperating group(s): Institute of International Studies, University of California, Berkeley; California Department of Health, Family Health Services Section, Maternal and Child Care Unit.

Publications: (1) Sklar, J. and Berkov, B. Teenage family formation in postwar America. *Family Planning Perspectives* (in press). (2) Sklar, J. and Berkov, B. Abortion, illegitimacy and the American birth rate. *Science* (in press). (3) Sklar, J. and Berkov, B. The effects of legal abortion on legitimate and illegitimate birth rates: The California experience. *Studies in Family Planning*, November 1973, 4(11).

36-LC-3 FAMILIES, INSTITUTIONS, AND CHILD DEVELOPMENT

Investigator(s): Laura Lein, Ph.D., Research Associate; and Maureen Durham, Michael Pratt, Michael Schudson, Ronald Thomas, and Heather Weiss, Research Staff Members, Center for the Study of Public Policy, 123 Mount Auburn Street, Cambridge, Massachusetts 02138.
Purpose: To understand the effects of the family and its social structure on children and their parents.
Subjects: Middle income families in which both parents are employed. Each family has at least one preschool child.
Methods: This is an intensive study of a small, but carefully selected sample. The research tools involved are extensive interviews used with three-generational families; a series of demographic, financial, and sex role attitude materials; and procedures for observing families. The dependent variables include family interaction, parental satisfaction, and the social and cognitive development of preschool children. These variables will be related to the independent variables of family size, parental employment, income and education, and age of children. Intermediate dependent variables include the family's social network, child care strategies, and the sharing of responsibility among family members. Four areas for special work have been outlined: (1) participation of women in the labor force, (2) social and cognitive development of children, (3) analysis of sociolinguistic records of family interaction, and (4) children's perceptions of their social world.
Duration: February 1975-January 1977.
Cooperating group(s): National Institute of Education, U. S. Department of Health, Education, and Welfare; National Institute of Mental Health; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare.

36-LC-4 HEALTH AND DEMOGRAPHIC EFFECTS OF INDUCED ABORTION

Investigator(s): Richard H. Shachtman, Ph.D., Associate Professor; Carol J. Hogue, Ph.D., Assistant Professor; and Wilbert Gesler, Research Assistant, Department of Biostatistics, School of Public Health, University of North Carolina, Chapel Hill, North Carolina 27514; and John R. Schoenfelder, Graduate Student, Department of Statistics, University of North Carolina, Chapel Hill, North Carolina 27514.
Purpose: To further investigate the effect of an induced abortion on subsequent pregnancy outcomes; to investigate personal characteristics that may serve to differentiate nonaborters from aborters; and to investigate the relationship between contraceptive utilization and effectiveness and the incidence of induced abortion.
Subjects: 928 Macedonian residents of Skopje, Yugoslavia, who attended the University of Skopje Obstetrics and Gynecology Clinic for termination of their first pregnancy during 1968 or 1969.
Methods: An historical-prospective design was employed to collect data on the residents of

Skopje, Yugoslavia during Fall 1972. A search of records resulted in the identification of two cohorts: (1) women whose first pregnancy was terminated by an induced abortion, and (2) women whose first pregnancy was delivered. The two groups were later sought for interviewing during the latter part of 1972. Data were eventually obtained for 217 members of the aborters cohort and 711 members of the deliverers cohort. In addition to the usual chi-square tests and discriminant analysis, the data are being analyzed through the use of a Markov Chain. A 79-state chain has been conceptualized and maximum likelihood estimates of the transition probabilities obtained. Functions of these estimates will be used to answer specific research questions.

Findings: There was no evidence of impaired fertility among aborters nor of an increased incidence of spontaneous abortions for future pregnancies. Induced abortions, when preceding a first birth, neither increase nor decrease the risk of prematurity for the first birth. Factors which proved to be most important in discriminating premature birth from full-term first births were: the interactions between smoking and maternal weight, between age (squared) and working during pregnancy, between sex of the child and maternal education, between maternal weight and working during pregnancy, and between per capita income and prior induced abortion. The last term, however, contributed only .185 percent of the total variation in prematurity.

Duration: 1971-1977.

Cooperating group(s): Ford Foundation; Rockefeller Foundation; National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: (1) Shachtman, R. H. and Hogue, C. J. Prematurity and other event rates subsequent to induced abortion I: A Markov Chain Model. *Institute of Statistics Mimeo Series No. 1009,* University of North Carolina, Chapel Hill, North Carolina, 1975. (2) Hogue, C. J. Low birth weight subsequent to induced abortion: An historical prospective study of 948 women in Skopje, Yugoslavia. *American Journal of Obstetrics and Gynecology,* December 1975, 123(7), 675-681. (3) Hogue, C. J.; Shachtman, R. H.; and Schoenfelder, J. R. The comparison of post-abortum and post-partum time-to-delivery using a data-based Markov Chain. *Institute of Statistics Mimeo Series No. 1034,* University of North Carolina, Chapel Hill, North Carolina, 1975.

36-LG-1 QUESTIONNAIRE ON RESOURCES AND STRESS

Investigator(s): Jean Holroyd, Ph.D., Associate Professor, Department of Psychiatry, University of California at Los Angeles, Los Angeles, California 90024.

Purpose: To develop and validate an instrument to assess the effects on the family of a chronically ill or handicapped person.

Subjects: 200 children, ages 2 to 15, who have a variety of chronic illnesses or mental retardation.

Methods: Clinical samples are located through the University of California at Los Angeles Center for the Health Sciences, and control cases are nominated by clinical cases. Subjects are classified by their disease (e.g., autism, cystic fibrosis, leukemia). Validation procedures have usually involved a comparison of clinical groups with each other or with controls.

Findings: The Questionnaire on Resources and Stress successfully discriminates mothers from fathers, married from single mothers, and mothers of Down's syndrome children from mothers of autistic children in terms of the amount of stress they report for themselves or their family.

Duration: 1972-continuing.

Publications: (1) Holroyd, J.; Brown, N.; Wikler, L.; and Simmons, J. Q. Stress in families of institutionalized and non-institutionalized autistic children. *Journal of Community Psychology,* 1975, 3, 26-31. (2) Holroyd, J. The Questionnaire on Resources and Stress: An

instrument to measure family response to a handicapped family member. *Journal of Community Psychology*, 1974, 2, 92-94.

36-LH-1 TRANSFER OF ATTACHMENT FROM A CARETAKER TO AN ADOPTIVE MOTHER

Investigator(s): Olga Maratos, Ph.D., Child Psychologist; and Maria Fafouti, M.A., Psychologist, Metera Babies Centre, Aghioi Anargyroi, Athens, Greece.
Purpose: To study the presence and intensity of attachments of infants with a caretaker; and to study the transfer of attachment to an adoptive mother following a 2-week adaptation period.
Subjects: 15 boy and girl infants between 7 and 13 months of age. Subjects are normal infants living in an institution until the time they are adopted.
Methods: This research design involves direct observation through a one-way screen of adult-infant interaction and of infant behavior in 5-minute episodes of play, separation, presence of a stranger, reunion with the mother, etc. The control group was made up of infants of the same age and sex, who remained in the institution. They were observed using the same methods, so that the natural development of an already existing bond was observed.
Findings: The intensity of attachment depends on the age of the infant; the successful transfer to an adoptive mother depends on the quality of attachment that existed previously to the transfer of attachment and the successful matching of the mother's behavior to the infant's individual needs.
Duration: March 1975-March 1976.

Childrearing

36-MB-1 MATERNAL INTERVENTION TO AID IN THE DEVELOPMENT OF PREMATURES

Investigator(s): Richard Umansky, M.D., Director; and Rosamund Gardner, Ph.D., Staff Psychologist, Child Development Center, Children's Hospital Medical Center, 52nd and Grove Streets, Oakland, California 94609.
Purpose: To promote and maximize mothering skills (where this is compromised by separation and ill health of the premature infant in the early months of the infant's development) by using a therapeutically oriented approach to the mother's life problems that form the background for her maternal relationship to her child.
Subjects: 96 mothers, ages 14 to 40 (one-third have post-high school education; two-thirds have high school education or less); and 96 infants, ages 40 weeks to 12 months, equally divided by sex.
Methods: Premature infants from a hospital nursery are randomly assigned to an experimental or to a control group. Infants qualify for the study when they are under 37 weeks gestational age and less than 5 pounds at birth. The experimental and control groups are controlled for mother's education, parity, infant's birthweight, and degree of medical severity. Specially trained public health nurses visit the experimental mothers' homes, while control mothers attend a follow-up clinic for the first 6 months. Infants with significant developmental delays are given infant stimulation by infant educators during the second 6 months of life. When the infants are 6 and 12 months old, their mothers are measured on scales of maternal attachment (based on videotaped home sessions) and coping ability.
Findings: The experimental group shows greater differential gains in maternal status on the

basis of educational level of mothers and primiparous mothers when compared to the control group. More control group infants need infant education than experimental group infants.
Duration: July 1973-June 1976.
Cooperating group(s): Division of Research, Maternal and Child Health Service, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-MB-2 GENETIC AND ENVIRONMENTAL FACTORS IN THE DEVELOPMENT OF SOCIAL CHARACTERISTICS IN YOUNG CHILDREN

Investigator(s): Hugh Lytton, Ph.D., Professor, Department of Educational Psychology, University of Calgary, 2920 - 24th Avenue, N.W., Calgary, Alberta, Canada T2N 1N4.
Purpose: To identify parents' childrearing practices that influence the development of compliance, dependence, independence, and speech behavior in young children; and to assess the genetic contribution to these characteristics.
Subjects: 136 boys, ages 2½ to 3, including 46 sets of twins and 44 singletons.
Methods: The methods of data collection involve observation in the home, interviews, ratings of child and parent characteristics, and experiments. The major analyses will be concerned with identifying the parent stimuli that influence certain types of child behavior and with showing how child behavior, in turn, affects parent actions. The detailed statistical analyses will be done by computer.
Findings: Better educated parents used prohibitions slightly less and suggestions and reasoning more than other parents. A reciprocal interaction system prevails in the area of speech and compliance: more speech and somewhat more compliance by better educated parents is reflected in more speech and compliance by their children. The outstanding dimensions of child actions concern attachment behavior. Other important factors relate to impersonal activity vs. personal interaction, movement vs. speech, and negative affect. The structure of both mother and father behavior is marked by the contrasting approaches to discipline: positive vs. negative. Affectionate behavior forms another salient factor. Intercorrelations between the domains show child attachment behavior to be related to the positive side of parental behavior. Aversive approach by one parent is compensated for by child attachment to the other. Sequential analysis showed that the probability of child compliance was highest after parental suggestion and decreased progressively with command and reasonsing. Among parent actions preceding the verbal control, physical control, negative action, positive action, and neutral action, in this order, facilitated both comply and noncomply. Physical control and negative action facilitated noncomply more than comply; the reverse held for positive and neutral action. These findings stress the impact of power assertion, but they apply to the immediate situation. By contrast, a correlational analysis of long-term effects supported a cognitive view of childrearing. Compliance was positively correlated with independence and maturity of speech and negatively with an experimental measure of dependence. Consistently enforced discipline, psychological rewards, maternal play, and maternal reasoning contributed importantly to the positive prediction of compliance, whereas material rewards and physical and psychological punishments were negatively associated with it. The findings support a cognitive theory of moral development and demonstrate the importance of a consistent parental authority role. Twins experience fewer verbal interchanges of all kinds with their parents and receive fewer demonstrations of affection than singletons, even after allowing for differences in mother's education. This has obvious implications for the twins' intellectual development. An analysis of twins' birth records, together with speech criteria, demonstrated that their prenatal and perinatal environment is a less important influence on language development than their postnatal environment. It was concluded that it is parents' reduced speech which leads to the

twins' lower verbal facility, rather than a lower facility negative influencing parent input.
Duration: 1970-1976.
Cooperating group(s): Canada Council.
Publications: (1) Lytton, H. Comparative yield of three data sources in the study of parent-child interaction. *Merrill-Palmer Quarterly*, 1974, 20, 53-64. (2) Lytton, H. and Zwirner, W. Compliance and its controlling stimuli observed in a natural setting. *Developmental Psychology* (in press). (3) Lytton, H. Determinants of compliance in two-year-old boys: Comparative findings via three approaches (Abstract). *Catalog of Selected Documents in Psychology*, 1973, 3, 121-122. (4) Lytton, H. Three approaches to the study of parent-child interaction: Ethological, interview, and experimental. *Journal of Child Psychology and Psychiatry*, 1973, 14(1), 17.

36-MC-1 PARENT TRAINING IN PREPRIMARY COMPETENCE

Investigator(s): Jack F. Bensen, Ph.D., Director, Speech and Hearing Clinic; and Carroll V. Truss, Ph.D., Professor, Department of Psychology, University of Miami, Coral Gables, Florida 33124.
Purpose: To train mothers of newborn infants what, where, and how to teach their babies to develop behavioral competence; and eventually to develop a high school level training course.
Subjects: Experimental group: 100 white mothers, ages late teens to early 30s, who are or have been outpatients of the Metropolitan Dade County Health Department Clinics. Control group: 100 mothers.
Methods: Mothers come for 10 weeks to a 3-hour evening class that is taught in the clinic by members of the research team. Class work includes (1) movies, (2) slides, (3) demonstration materials, and (4) several sessions of training pigeons in simple operant conditioning techniques used as partial analogue of preverbal learning. Babies are tested at 12 and 24 months with REEL, Utah, and other appropriate tests. Control and experimental group babies will be compared using analysis of variance and other appropriate statistical comparisons to investigate evidence of differential cognitive and language development.
Duration: June 1974-May 1977.
Cooperating group(s): National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.
Publications: Copies of progress reports, reference lists, etc. are available from the investigators.

SOCIOECONOMIC AND CULTURAL FACTORS

36-NA-1 CULTURALLY DISADVANTAGED CHILDREN: A FOLLOW-UP STUDY

Investigator(s): T. Cox, Ph.D., Project Director; and A. Jones, B.Ed., Assistant Research Officer, Education Department, University College of Swansea, Hendrefoilan, Swansea, Glamorgan, United Kingdom SA2 8ND.
Purpose: To study the effects of cultural and material deprivation upon children's development in the school setting in order to provide guidelines for compensatory education.
Subjects: 100 children (50 pairs) of mixed sex, ages 11 to 12, who attend primary schools serving socially deprived urban areas.
Methods: This was a longitudinal study using matched group design. The subjects were originally studied at ages 5 to 7 during the infant school stage. The focus group (50 children) were from culturally disadvantaged homes. They were matched with controls (50 children) for age and sex, but the latter came from culturally more favored home backgrounds. Data collection focused on the language skills of children and standardized tests (vocabulary, reading, spelling, etc.). Specially devised or adapted tests, including storytelling, were administered. Analysis was by means of F. M. Lord's analysis of covariance method.
Findings: In the original infant school study, the focus group was significantly poorer than the control group on a wide range of language and school achievement measures and also in behavioral adjustment. The data for the present follow-up is still being collected.
Duration: April 1975-March 1976.
Cooperating group(s): Schools Council, University of Swansea; three Local Education Authorities in England and Wales.
Publications: (1) Schools Council Research and Development Project in Compensatory Education. Bulletin No. 3. Department of Education, University College of Swansea, 1972. (2) Chazan, M. *et al. Studies of infant school children: Volume II. Deprivation and development.* (To be published by Basil Blackwell.)

36-NA-2 ECOLOGICAL INFLUENCES ON THE PSYCHOSOCIAL DEVELOPMENT OF BLACK CHILDREN

Investigator(s): Arthur L. Mathis, Ph.D., Director, Research and Evaluation; and Ura Jean Oyemade, Ph.D., Community Mental Health Center, Meharry Medical College, 1005 - 18th Avenue North, Nashville, Tennessee 37208.
Purpose: To investigate the relationship between environmental conditions and personality and social development of black children; and to develop a preschool curriculum that will enhance the transition of the child from his immediate environment to the dominant culture.
Subjects: 40 black preschool children, age 4, from lower and lower-middle socioeconomic backgrounds.
Methods: The subjects will be tested in year 1 and year 2, using the Thomas Self-Concept Value

Test, Matching Familiar Figures Test, Toy Preference Test, Stephens-Delys Reinforcement Contingency Interview, and Leifer-Roberts Hierarchy Instrument. Following testing, three videorecordings will be collected on each subject in the preschool setting. The videorecords will consist of 15-minute intervals and will be collected during free play activities. The subjects' behaviors will be coded from the videorecords and related to the above measures.
Duration: July 1974-June 1977.
Cooperating group(s): Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.
Publications: Reports are available from the investigators.

36-NB-1 SUMMARY OF THE 1975 EVALUATION OF THE CLINCH-POWELL EDUCATIONAL COOPERATIVE EARLY CHILDHOOD EDUCATION PROGRAM: AN EARLY CHILDHOOD EDUCATION PROGRAM IN RURAL APPALACHIA

Investigator(s): Vicki M. Johnson, Ed.D., Research Associate; and O. K. O'Fallon, Ed.D., Associate Professor, Bureau of Educational Research and Service, College of Education, Claxton Education Building, University of Tennessee, Knoxville, Tennessee 37916.
Purpose: To provide a preschool educational experience for children who would not otherwise have an opportunity to enroll in a program prior to first grade.
Subjects: Approximately 350 children, ages 3 to 5.
Methods: The early childhood education (ECE) project was designed specifically to meet the needs of the Appalachian region and to account for geography, population distribution, the scarcity of trained educational professionals, and lack of classroom facilities. This model program consisted of three major instructional components: a mobile classroom, television, and home teachers. The mobile classrooms were vans that had been converted into kindergarten classrooms. They were supplied with educational toys and materials and audiovisual equipment. A van visited a vicinity one half day a week, and the children's parents brought them to the van. The major function of the van was to provide the children with an opportunity to develop social skills. "Captain Kangaroo" was the TV component of the ECE program. An instructional guide for parents was used to integrate the TV program with home activities. The TV program was intended to motivate parents to engage in learning activities with their children. The home visitors were specially trained local women who met once a week with each family they served. They brought educational activities and materials the family could use during the week and discussed the previous week's learning activities with the parent and the child. During the visit, the home visitor spent approximately 1 hour engaging the child in various educational activities while the parent observed her technique. The children were administered pre- and posttests, and their results were compared to the control group's scores. The tests included the Peabody Picture Vocabulary Test (PPVT) and the Metropolitan Readiness Test (MRT). The parents completed a Parent Evaluation Form, a Parent Behavior Rating Scale, and a Parent Questionnaire. The home visitor completed a Home Visitor Social Behavior Rating Scale and the van teacher completed the Van Teacher Social Behavior Rating Scale. All scores were compared on a pre- and posttest basis.
Findings: The parent evaluation responses were extremely positive for all 3 years of the program. The parents seemed well satisfied with the program and felt it had positive effects for them and their children. Approximately 3,900 children who attended the ECE program from 1972 through 1974 had higher mean MRT scores than children who had not attended a preschool program. PPVT scores showed that, for each of the 3 years, the children who had been in the program the longest had the highest posttest scores and the greatest amount of pretest and posttest gain; while the control children had the lowest posttest scores and the least gain. The three social behavior scales yielded similar results: the posttest scores were generally

more positive than the pretest scores, and for most items, these differences were significant at the .01 level. The Parent Questionnaire data indicated that ECE parents reported more positive attitudes toward education on the posttest than they did on the pretest.
Duration: 1971-1975.
Cooperating group(s): Title III; Clinch-Powell Educational Cooperative.
Publications: (1) Johnson, V. M. and O'Fallon, O. K. Summary of the 1974 evaluation of the Clinch-Powell Educational Cooperative Early Childhood Education Program: An early childhood education program in rural Appalachia. Available from ERIC Document Reproduction Service, P. O. Box 190, Arlington, Virginia 22210. (Order No. ED 100 533: $0.76, microfilm; $3.32, photocopy.) (2) Johnson, V. M. and O'Fallon, O. K. Clinch-Powell Early Childhood Education Program: Evaluation report, July 1975. Will be available from ERIC Document Reproduction Service.

36-NB-2 YOUNG ADULTS IN HONG KONG

Investigator(s): David B. L. Podmore, Lecturer, Sociology Group, Maple House, University of Aston, 158 Corporation Street, Birmingham B4 6TE, England; David C. Chaney, Department of Sociology, University of Durham, Durham, England; and Andrew L. C. Lu, Social Research Centre, Chinese University of Hong Kong, Hong Kong.
Purpose: To investigate attitudes of young people toward marriage, the family, work, and other social institutions; and to attempt to relate the findings to hypotheses concerning modernity and traditionalism.
Subjects: 1,123 randomly chosen young adults, ages 15 to 29, from urban areas of Hong Kong.
Methods: Questionnaires were administered to respondents by University student interviewers who were trained by the investigators.
Duration: 1969-completed.
Cooperating group(s): Nuffield Foundation.
Publications: (1) Podmore, D.; Chaney, D.; and Golder, P. Don't know responses among young adults in Hong Kong. *Journal of Social Psychology*, August 1975, 95, 307-308. (2) Podmore, D.; Chaney, D.; and Golder, P. Third parties in the interview situation: Evidence from Hong Kong. *Journal of Social Psychology*, May 1975, 95, 227-231. (3) Podmore, D. and Chaney, D. Family norms in a rapidly industrializing society: Hong Kong. *Journal of Marriage and the Family*, May 1974, 36, 400-407.

36-NC-1 CHANGING MASS PUBLICS OF ADVANCED INDUSTRIAL SOCIETY

Investigator(s): Samuel H. Barnes, Ph.D., Program Director; M. Kent Jennings, Ph.D., Program Director; and Ronald Inglehart, Ph.D., Research Associate, Institute for Social Research, 3067 ISR, Center for Political Studies, University of Michigan, Ann Arbor, Michigan 48104.
Purpose: To provide a baseline for the analysis of change in mass publics; and to analyze intergenerational change by studying parents and youth.
Subjects: The subjects, ages 16 and over, are a representative sample of the population of the United States. When a parent, of a youth between 16 and 21, falls into the sample, the youth is interviewed; when a youth 16 to 21 falls into the sample, a parent (randomly selected) is also interviewed.
Methods: This is a collaborative study of change in politically relevant values, political

resources, and political behavior in advanced industrial society. The study will be based on interviews with representative national samples and parent-child pairs in Austria, the United States, the United Kingdom, France, Germany, Italy, Belgium, the Netherlands, and Switzerland. The research design is a national survey, involving an interview protocol that lasts between 50 and 100 minutes. The study focuses on changes in values, political resources, and political behavior and on consequences of these changes for the political system. Several dimensions will be explored related to economic, social, and political values, cognitive and experiential resources, conventional and unconventional forms of participation, interpersonal communications and mass media behavior, levels of satisfaction, discontinuities in life experiences, socialization patterns, and demographic and other life history variables. These changes will be associated with key criterion groups, with particular attention devoted to the role of age, education, and affluence in change. The consequences of these changes will be analyzed for the nature of political inputs, satisfaction with system performance, and the perceived adequacy of existing political institutions and practices. The Rokeach Instrumental Values Inventory will be administered.
Duration: 1974-1977.
Cooperating group(s): National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse, and Mental Health Administration; Public Health Service; U. S. Department of Health, Education, and Welfare; United States Army Research Institute for the Behavioral and Social Sciences.

36-NG-1 AUTHORITY PATTERNS IN THREE-GENERATIONAL FAMILIES IN TAIWAN

Investigator(s): Nancy J. Olson, Ph.D., Assistant Professor, Department of Sociology, University of Santa Clara, Santa Clara, California 95053.
Purpose: To determine the antecedents and childrearing consequents of variations in exercise of grandparental authority.
Subjects: Approximately 2,000 Taiwanese families, each having a 7th grade child (approximately 2/3 urban, 1/3 rural).
Methods: The primary analysis will be of the 350 patrilineally extended families in the sample. Variations in the power of the older generation will be examined, particularly the power of the grandmother to influence family affairs. Several indices of power distribution will be explored on a pilot basis, and a large scale questionnaire study will be used to test some hypotheses concerning the antecedents of grandparental power, as well as its consequents for child socialization in the family.
Duration: 1974-completed.
Cooperating group(s): National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-NG-2 ETHNIC FACTORS IN CHILD WELFARE

Investigator(s): Shirley Jenkins, Ph.D., Professor, School of Social Work, Columbia University, 622 West 113th Street, New York, New York 10025.
Purpose: To examine the ethnic components in the delivery of services to children of five minority groups: Asian Americans, Blacks, Mexican Americans, native Americans, and Puerto Ricans; and to identify areas in which ethnicity has been a barrier to appropriate entitlements.
Subjects: Respondents to the ethnic questionnaire include 1,612 child welfare workers who are

members of the National Association of Social Workers; and 583 w:rkers in ethnic agencies. Both samples are national. In addition, 55 innovative agencies delivering child welfare services are included. Parents are also inverviewed.

Methods: Research methods include field visits to innovative agencies, agency interviews, and the development and application of a questionnaire on ethnic commitment to a national sample. Group interviews of parents of minority children are undertaken. Data analysis includes significant tests, cross-tabs, factor analysis, and item-criterion analysis to develop indexes.

Findings: A dual pattern of responses to ethnic issues in child welfare has been found as between traditional and innovative agencies. An index of ethnic commitment has been developed, with separate indexes for different minority groups. Innovative programs have been identified.

Duration: September 1973-June 1976.

36-NG-3 CULTURE, CHILDREN'S ACTIVITIES, AND COGNITIVE PERFORMANCE IN UTUADO, PUERTO RICO

Investigator(s): Evelyn Jacob, ABD, Graduate Student, Department of Anthropology, University of Pennsylvania, Philadelphia, Pennsylvania 19174.

Purpose: To understand the relationships between culture and children's activities and cognition; and to investigate the influence of cultural standards on children's activity and cognitive performance through observation, interviews, and testing.

Subjects: 30 children, ages 5.0 to 6.8, selected randomly from kindergarten classes in urban Utuado.

Methods: The major data were collected through participant observation done in the town of Utuado during a 10-month field period. The data also included 100 hours of naturalistic observations and tape recordings of the sample children collected over 4 months. Observations were made at home and in school. Mothers and female caretakers of the children were interviewed. Children were administered the Children's Embedded Figures Test and the Stanford Binet.

Duration: November 1974-completed.

Cooperating group(s): Division of Social Services, U. S. National Science Foundation; Social Science Research Council; American Association of University Women.

EDUCATIONAL FACTORS AND SERVICES

General Education

36-OA-1 WHO USES PRESCHOOL FACILITIES IN DENMARK?

Investigator(s): Mogens Nord-Larsen, Cand. Polit., Research Associate, Danish National Institute of Social Research, Borgergade 28, DK-1300 Copenhagen K, Denmark.
Purpose: To determine the kinds of families whose children use preschool facilities in Denmark.
Subjects: 3,300 families with at least one preschool child. The subjects were chosen randomly from all over Denmark.
Methods: There were two groups involved in the investigation: families who use the preschool system, and families who do not. The differences between the two groups in relation to socioeconomic conditions were taken into consideration. Currently 50 percent of 5- and 6-year-old Danish children are in preschools. Data were collected by a questionnaire that was given to parents. The questionnaire data were analyzed by the OSIRIS program package.
Findings: The use of preschool facilities is largest in the upper socioeconomic groups, but not to the extent seen in Denmark in relation to higher education. The decision as to whether or not the families want to use the preschool system depends mostly on the possibilities of having their children looked after during the parents' working day outside the normal 3 hours a day in preschool.
Duration: March 1974-June 1976.

36-OA-2 MULTIPLE OUTCOME STUDY

Investigator(s): Paul S. Silverman, M.S., Evaluation Coordinator; and Charles D. Smock, Ph.D., Director, Mathemagenic Activities Program, Follow Through, Room 229 Psychology Building, University of Georgia, Athens, Georgia 30602.
Purpose: To collect information concerning children's cognitive, academic, and socioeconomic changes and their interactions that may be attributable to various aspects of the classroom learning environment.
Subjects: 200 boys and girls in grades kindergarten through 4, who attend either Follow Through or traditional classes in three Southeastern communities. Most children are from low income families.
Methods: Classroom process descriptors as well as output measures will be examined for common variances. Patterns distinguishing children in Follow Through vs. traditional schools will be interpreted. Individual and group tests will be administered, including tests of Piagetian concepts, cognitive tempo, linguistic competence, locus of control, Raven's Progressive Matrices, and academic achievement. Classroom interaction measures will also be used.
Duration: January 1975-January 1977.
Cooperating group(s): Follow Through; Office of Education, Education Division, U. S. Department of Health, Education, and Welfare.

36-OA-3 AN INVESTIGATION OF SOME OF THE LONG-TERM PSYCHOLOGICAL EFFECTS OF OPEN CLASSROOM TEACHING ON PRIMARY SCHOOL CHILDREN IN ENGLAND

Investigator(s): Robert A. Horwitz, Ph.D., Department of Psychology, Yale University, 333 Cedar Street, New Haven, Connecticut 06510.
Purpose: To test the hypothesis that, by age 10 to 11, children, who have attended schools following an open classroom approach, will differ significantly (along such dimensions as creative thinking, curiosity, self-responsibility, and attitudes toward learning) from children who have attended more traditional schools.
Subjects: 60 boys and 60 girls, ages 10 to 11, in six primary schools in middle and working class neighborhoods in and around London, England.
Methods: Forty subjects were drawn from schools that employed a relatively consistent open classroom approach from the time the children began school at age 5. Forty subjects were selected from schools which used a basically traditional approach from age 5. Another 40 subjects of the sample were selected from schools which followed an open classroom approach at the infant school level (ages 5 to 7) but then became more traditional at the junior school level (ages 7 to 11). Research instruments included questionnaires, interviews, tests, projective devices, and problem solving tasks.
Duration: September 1973-completed.
Cooperating group(s): Foreign Area Fellowship Program, Social Science Research Council; Yale Concilium on International and Area Studies, Institution for Social and Policy Studies.

36-OA-4 THE RATIONALES FOR EARLY CHILDHOOD EDUCATION POLICY MAKING: A COMPARATIVE CASE STUDY ANALYSIS

Investigator(s): Pascal D. Forgione, Jr., Ph.D., Department of Education, Stanford University, Stanford, California 94305. Address correspondence to: Maryland SDE, P. O. Box 8717, BWI Airport, Baltimore, Maryland 21240.
Purpose: To illuminate the rationales that states and state policy makers have used to support recent early childhood education (ECE) policy initiatives; and to determine and describe how ECE policy is made, in view of apparent conflict between many state ECE policies and sound ECE practice as suggested by systematic ECE research.
Subjects: First, a survey was made of all 50 states, and then a sample was selected of five states (West Virgina, California, New Mexico, Ohio, and Georgia) that initiated kindergarten legislation or programs for 5-year olds between 1971 and 1973.
Methods: A carefully controlled case study methodology was developed around basic research questions to explore the background of legislative proposals, the policy process, and the agencies involved in the legislations.
Findings: Although successful legislative strategy was patterned after the state's own political and cultural characteristics, federal influence in both policy and budget areas was pervasive. The rationales used both to support and to oppose ECE reform could be divided into four categories: social, political, fiscal, and research. A single rational could be tailored to fit the needs of either supporting or opposing groups, and they didn't always have to be logical in order to be effective. There was no observable system or unity among states in making use of ECE research or otherwise developing a common understanding or base for ECE policy making.
Duration: July 1973-completed.
Cooperating group(s): Community Services Administration, Social and Rehabilitation Service, U. S. Department of Health, Education, and Welfare; Hewitt Research Center.

Publications: An executive summary of the study is available from Hewitt Research Center, P. O. Box 179, University Station, Berrien Springs, Michigan 49104 for $2.00 postpaid. A copy of the approximately 400-page report is $17.50.

36-OA-5 CURRICULUM RESEARCH IN INFANT EDUCATION

Investigator(s): William Kessen, Ph.D., Professor; and Greta G. Fein, Ph.D., Research Associate-Lecturer, Department of Psychology, Yale University, New Haven, Connecticut 06520.
Purpose: To develop and evaluate variations in home-based education for infants.
Subjects: 100 mother-child dyads: 52 girls, 48 boys, of middle-lower socioeconomic status.
Methods: This is a longitudinal study of 12 to 30 months and involves a six-group design: three curriculum groups (language, play, social); two comparison groups (baby only, mother only); and test only control group. Assessments were made at four ages: 12 month (pretest), 18th, 24th, and 30th month (posttest). The curriculum and comparison groups were visited weekly for the first 6 months, biweekly for the second 6 months, and monthly for the third 6 months. The data were collected by using standardized tests and behavioral observations. Statistical treatment was done by multivariate and trends analyses with group contrasts.
Findings: The language curriculum was most effective, and play curriculum was most effective with lower socioeconomic status families. Family organization influences the program outcomes. Some maternal behavior at 12 months influences later child behavior and resists intervention effort.
Duration: July 1971-September 1975.
Cooperating group(s): Children's Bureau, Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.

36-OA-6 THE RELATIONSHIP OF TEACHER PERSONALITY VARIABLES TO MODELS OF EARLY EDUCATION

Investigator(s): Marce Verzaro, Ph.D., Assistant Professor and Coordinator, Human Development Laboratories, Colleges of Home Economics and Education, University of Tennessee, 1218 White Avenue, Knoxville, Tennessee 37916.
Purpose: To predict and verify the teacher program match involved in effective teaching within four model categories of early education.
Subjects: 85 female teachers of early education, ages 24 to 55, from Wisconsin, Michigan, and Tennessee.
Methods: The teachers are employed in four different model approaches to early childhood education: structured/permissive-enrichment, structured-cognitive, structured-environment, and structured-informational. Three model categories had 15 teachers classifed as more effective and 70 as less effective teachers, and one category had 10 teachers classified as more effective. The teachers were defined as more or less effective by a supervisory rating system. All teachers were tested once using Forms A and B of the 16 Personality Factor Questionnaire (Cattell). Teachers were tested on site; testing took about 2 hours. Statistical analysis was a one-way MANOVA with four levels of the independent variables (i.e., model categories) and seven dependent variables (i.e., personality traits), as well as a multiple regression analysis.
Findings: There was no significant difference among the more effective teachers in the four categories, but there was a significant difference among the less effective teachers in three categories. There were significant differences among all teachers in four model categories, and

no significant difference among more and less effective teachers.
Duration: June 1974-completed.
Cooperating group(s): Racine, Wisconsin Public Schools; Knox City and County Head Start; Northwest CAP Head Start, Wisconsin; High Scope Foundation, Ypsilanti, Michigan.
Publications: Results are available from the investigator.

36-OB-1 FIELD TEST AND REVISION OF CAREER EDUCATION CURRICULUM

Investigator(s): James A. Dunn, Ph.D., Director, Development Systems Program, American Institutes for Research, P. O. Box 1113, Palo Alto, California 94302.
Purpose: To revise and field test the remaining 61 Comprehensive Career Education Model (CCEM) units developed by Ohio State University Center for Vocational and Technical Education.
Subjects: Students, in grades K through 12, chosen from a national sample of cooperating, volunteer schools.
Methods: Classroom groups of students, representing a wide range of characteristics, are included in the study. Classes will be paired, with each member of the pair serving as a control for the module taught in the other classroom. Data will include student performance tests, a career maturity scale, and teacher and student evaluation reports. After the units are revised, they will be tested in at least two experimental and two control classrooms.
Duration: July 1974-July 1976.
Cooperating group(s): National Institute of Education, U. S. Department of Health, Education, and Welfare.
Publications: Data will be available from the American Institutes for Research.

36-OB-2 A ROLE MODEL APPROACH TO JOB TRANSITION FOR DISADVANTAGED COOPERATIVE HOME ECONOMICS STUDENTS

Investigator(s): Ruth E. Pestle, Ph.D., Associate Professor, Department of Home Economics Education, Oklahoma State University, Stillwater, Oklahoma 74074.
Purpose: To improve recruitment and retention of disadvantaged and minority students on jobs; to investigate changes in roles of teacher-coordinators; and to determine problems in instigating the role model matching system.
Subjects: 23 disadvantaged males and females, ages 15 to 17. (The type of disadvantage might be academic, physical, economic, social, or some combination of these types.)
Methods: The exploratory pilot design involves three phases: (1) a planning period for cooperatively developing the methodology for carrying out the program with school and business representatives, (2) an implementation period of the normal school year from September to June, and (3) time in which to begin to follow graduates into full-time jobs in order to discover the effects of the program. Students are matched with a successful worker who at one time also had experienced some kind of disadvantage. Interviews, questionnaires, and rating scales were completed by employers, role models, students, and teacher coordinators. Data treatment is mainly descriptive and narrative.
Findings: Teachers have been able to find jobs for more students. Employers are willing to use the system. Role modeling appears to be a valuable learning experience. Student earnings show job retention.
Duration: July 1974-January 1976.

Cooperating group(s): Bureau of Occupational and Adult Education, Office of Education, U. S. Department of Health, Education, and Welfare.

36-OB-3 INFLUENCE OF SPECIAL VOCATIONAL PROGRAMS ON THE ATTITUDES OF RURAL DISADVANTAGED ADOLESCENTS

Investigator(s): Herbert M. Handley, Ed.D., Director, Bureau of Educational Research, Mississippi State University, Box 5365, Mississippi State, Mississippi 39762.
Purpose: To determine if there were significant differences in career readiness attitudes among disadvantaged vocational students enrolled in model programs, regular vocational students, and disadvantaged students who have had no vocational training.
Subjects: 271 high school girls and boys, ages 14 to 18.
Methods: The subjects were categorized into three groups according to socioeconomic and educational backgrounds: (1) disadvantaged vocational, (2) disadvantaged nonvocational, and (3) nondisadvantaged vocational. The study was quasi-experimental in nature in that the disadvantaged vocational group had studied in model programs which were planned to give them extra support in vocational readiness for at least 1 year. Comparison groups were selected: (1) a regular group of vocational students from nondisadvantaged backgrounds, and (2) a group of disadvantaged youth of the same age level as the disadvantaged vocational group who had not participated in vocational programs. Multivariate models such as discriminiant analysis, analysis of variance, and factor analysis were employed.
Findings: The disadvantaged vocational group was found to differ significantly from the disadvantaged nonvocational group in attitudes related to self and school, career maturity, and intrinsically motivated work values. The disadvantaged vocational group was more like the nondisadvantaged vocational group than like the disadvantaged nonvocational group in attitudes associated with career readiness.
Duration: July 1974-completed.
Cooperating group(s): Bureau of Occupational and Adult Education, Office of Education, U. S. Department of Health, Education, and Welfare; Mississippi State Department of Education.
Publications: (1) A paper presented at MidSouth Educational Research Conference, Jackson, Mississippi, November 1975: Handley, H. M. Vocational readiness attitudes of disadvantaged vocational students as compared with those of disadvantaged nonvocational students. (2) A monograph is available from Research and Curriculum Coordinating Unit for Vocational Education, Mississippi State University, Drawer DX, Mississippi State, Mississippi 39762.

36-OB-4 TARGETING INFORMATION TO MARKET SEGMENTS: AN ACTION ORIENTED STUDY OF ATTITUDES TOWARD VOCATIONAL EDUCATION AMONG TARGET POPULATIONS

Investigator(s): Linda A. Sikorski, Ph.D., Program Director, Far West Laboratory for Educational Research and Development, 1855 Folsom Street, San Francisco, California 94103.
Purpose: To provide information about the structure of current attitudes of minority and disadvantaged students toward vocational education; to provide information about the relationship of these attitudes to more fundamental beliefs of students and their parents about education, work, and society in general; and to provide information about what segments of the current population of disadvantaged and minority students might be reached and positively

affected by selected information campaigns.
Subjects: Approximately 500 secondary school students, male and female, in school districts with a high proportion of low income families.
Methods: A marketing research approach will be used to provide policy makers in the field of vocational education with much more substantial information about why the current array of vocational education programs is attractive or unattractive to, and accepted or rejected by, disadvantaged and minority students. This approach provides for an intensive study of the way in which attitudes can be segmented according to fundamental or underlying beliefs held by the study population. "Q" techniques developed by William Stephenson will be used as a methodological basis for creating the segments studied.
Duration: July 1974-February 1976.
Cooperating group(s): Bureau of Occupational and Adult Education, Office of Education, U. S. Department of Health, Education, and Welfare.

36-OB-5 CAREER COUNSELING AND PLACEMENT

Investigator(s): John D. Alcorn, Ph.D., Director; and David L. Fredrick, Ph.D., Coordinator, Career Counseling and Placement Project, Bureau of Educational Research, University of Southern Mississippi, Hattiesburg, Mississippi 39401.
Purpose: To establish a model program of career counseling and placement; to determine the effects of the program, if any, on the vocational assurance and vocational anxiety of high school students; and to determine the effects of the program, if any, on the attitudes of teachers toward career education.
Subjects: 203 students, selected from a population of approximately 600; and 30 teachers. The students included 55 twelfth graders, 70 ninth graders, 40 volunteer students from grades 9 to 12, and 38 volunteers from grades 11 and 12.
Methods: The subjects were assigned to five experimental groups. At the beginning of the school year, the students were administered the Vocational Anxiety Scale and the How Well Do You Know Yourself Test to assess changes in vocational anxiety and vocational assurance. Group I, composed of 550 freshman students from two randomly selected classrooms, received a 1-hour session each week for 5 weeks. During each session, subjects were exposed to prepared occupational information, which was disseminated through the use of (1) audiovisual aids including tape recorders, films, books, and slide presentations; (2) a guest speaker (a community volunteer who agreed to discuss his specific career field with interested students); (3) a lecture type discussion of career opportunities by the guidance counselor and/or instructor; and (4) the administration and interpretation of interest, ability, and personality tests. Group II was made up of 35 senior students from one randomly selected classroom and received a 1-hour session each week for 5 weeks. During each session, subjects were exposed to prepared occupational information, disseminated in the same manner as in Group I. Group III was comprised of 40 students from mixed grade levels who volunteered for career counseling. The career counseling varied depending on individual needs, but generally the students were encouraged to make use of all materials available in the Career Information Center. Group IV, comprised of 18 students from mixed grade levels who volunteered to join a career group, received a 1-hour session each week for 6 weeks. During each session, subjects were exposed to prepared occupational information, disseminated in the same manner as in Group I. Treatment in Group IV varied somewhat from other experimental groups because subjects were given a better opportunity to interact and receive feedback from other subjects in the group. The sessions were more informal than other groups. Group V was composed of 30 teachers from the same high school. They were exposed to a treatment described as "activities related to school

orientation to career education." At the beginning of the school year, all teachers were administered an attitude questionnaire. Posttests were administered during the last week of school to teachers, and following treatment phases, to the students. Statistical analysis employed a one-way analysis of variance for each dependent variable. The .05 confidence level was used to determine significance. Where applicable, a Scheffe test was used to make multiple comparisons between groups.

Findings: The results clearly indicated that the program of career counseling and placement was instrumental in reducing the level of vocational anxiety in all experimental groups. By examination of the control group means, it may be concluded that nearly all high school students experienced a relatively large increase in vocational anxiety as they approached the end of the school year. On the other hand, students who were exposed to the program of career counseling did not experience this large increase in anxiety, and often had slightly reduced levels of vocational anxiety.

Duration: 1974-completed.

Cooperating group(s): Department of Vocational Education, Office of Education, U. S. Department of Health, Education, and Welfare.

36-OD-1 THE EFFECTS OF SPECIALIZED TRAINING ON PRESCHOOL CHILDREN IN THE PERFORMANCE OF OBJECT PROJECTION AND STABILITY TASKS

Investigator(s): Marguerite A. Clifton, Ed.D., Professor and Head, Department of Physical Education for Women, Purdue University, West Lafayette, Indiana 47907.

Purpose: To determine if children, ages 2.0 to 5.11, perform significantly better in throwing and balance tasks following 20 weeks of special training than do their controls with no training.

Subjects: 112 girls and boys, ages 24 to 60 months: 68 children are in the experimental group and 44 children are in the control group.

Methods: The experimental subjects are enrolled in a 40-day movement education program spanning 6 months; the control group attends a local nursery school without a planned movement education program. The assessment of all subjects includes pre- and posttesting on three stability tasks and one velocity task utilizing the overhand throwing pattern. Analyses will be made by sex and age between groups.

Duration: October 1974-January 1976.

36-OE-1 PREKINDERGARTEN SCREENING

Investigator(s): Shirley Zeitlin, Ed.D., Director, Child Study Center Campus School, State University of New York, College at New Paltz, New Paltz, New York 12561.

Purpose: To develop a short instrument which will screen potentially high risk children who need further diagnoses based on age and developmentally normed material.

Subjects: 246 preschool children, ages 4 and 5, were chosen from three schools. Subjects were chosen to cover a socioeconomic range of migrant black families, black lower to middle class families, and white lower to middle class families.

Methods: Tests were administered in the spring before kindergarten started. The tests were scored on a basis of 100, and each school district established its own norms. All the data will be compared. In each sample group, results will be distributed over a normal curve with the low end tail indicating the potentially high risk group.

Duration: September 1973-June 1976.

Cooperating group(s): Fallsburgh School District; Forest Hills School District; Campus Learning Center, New Paltz.

36-OE-2 THE EFFECT OF EARLY SCHOOL ENTRANCE OR PRESCHOOL PROGRAMS ON THE SCHOOL ACHIEVEMENT AND ATTITUDES OF DISADVANTAGED CHILDREN

Investigator(s): Robert D. Moon, Ph.D., Director of Institutional Research, Andrews University, Berrien Springs, Michigan 49104.
Purpose: To analyze data from the 1970 National Elementary School Survey (NESS) that could help provide insights concerning the effect of preschool programs and early entrance on disadvantaged children as measured by later academic achievement and/or attitudes related to school.
Subjects: The 1970 test scores and teacher observations for approximately 80,000 children in grades 2, 4, and 6 from a national sample of about 3,500 schools.
Methods: For the 1970 NESS data, comparisons of various subpopulations (grades 2, 4, and 6, lower socioeconomic status and higher socioeconomic status by states) were made using (1) a one-way analysis of variance of achievement tests scores, (2) Cattell's profile analysis of categorized data, and (3) a chi-square analysis of specific variables of categorized data.
Findings: There were major limitations with the data because of missing data, ambiguous statements in the survey items, and gaps in the information requested by the survey. Some analyses were possible, however. Specific findings were: (1) There were marked differences between pupils identified as socioeconomically disadvantaged and those not so identified, both for achievement test scores and for pupil characteristics. (2) If kindergarten or preschool experience made any difference in later school achievement, it appeared to have greater benefit for pupils not identified as socioeconomically disadvantaged. (3) Such differences were minimal compared to those attributed to social economic status; the positive benefits of early school programs did not overcome the masking effect of other factors for disadvantaged children. (4) Older pupils in each grade achieved significantly better than younger pupils, but the differences became smaller as pupils progressed in school. The most meaningful differences were related to family socioeconomic status rather than to specific school programs. There appears to be an overconcern that all children learn certain tasks at an early age, whereas greater emphasis should be placed on coordinating programs for children with programs that will benefit and strengthen their families.
Duration: July 1973-August 1975.
Cooperating group(s): Community Services Administration, Social and Rehabilitation Service, U. S. Department of Health, Education, and Welfare; Hewitt Research Center.
Publications: A synopsis is available free from Hewitt Research Foundation, P. O. Box 179, University Station, Berrien Springs, Michigan 49104.

36-OG-1 ADAPTATION DIFFICULTIES IN SCHOOL

Investigator(s): Mogens Nord-Larsen, Cand. Polit., Research Associate, Danish National Institute of Social Research, Borgergade 28, DK-1300 Copenhagen K, Denmark.
Purpose: To describe adaptation problems as they occur in the first forms in school; to investigate the relationship between the physical conditions and the amount of difficulties; to determine if there are other problems related to adaptation difficulties; to see if difficulties

during early schooling in some way are constant; and to investigate what happens to children with problems.
Subjects: A group of approximately 600 children with adaptation difficulties, ages 9 to 12, and a control group of 600 children without problems. Both groups are found in the same school forms.
Methods: Information was collected by interviews with school teachers and parents and from various registers in the municipalities. The data from the interviews were analyzed by the OSIRIS program package. As a follow-up, the subjects were interviewed when they were 16 to 19 years old. Data were again collected from some registers, including the register for crime.
Findings: A description of the different kinds of adaptation difficulties in the schools was made. It was found that the group with adaptation problems had a lot of other problems in relation to learning, working habits, and social contacts with other pupils in the school form. Adaptation difficulties seem to be a constant problem in the sense that children with such problems leave the school system much earlier than other children and have a much higher ratio of crime and of being unskilled workers.
Duration: 1969-1976.

36-OG-2 PRESCHOOL PROGRAMS: THEIR DIMENSIONS AND EFFECTS

Investigator(s): Louise B. Miller, Ph.D., Professor, Department of Psychology, University of Louisville, Louisville, Kentucky 40208.
Purpose: To examine relations between classroom behavior of teachers and behavior of children; and to examine relations of both teachers and children to outcome measures with strict control over program, lesson content, materials, and other ecological variables.
Subjects: 120 boys and girls, ages 4 and 5.
Methods: Eight Head Start classes used the Peabody Language Development Kit, Level #P over 1 year. The teachers were monitored daily for 16 weeks with two research instruments: the Peabody Implementation Rating Scale and the Peabody Implementation Monitoring System. There was also daily monitoring of individual children (in the context of the teacher's behavior) with the Matrix for Observation of Behavior in Context. All children were pre- and posttested with the Illinois Test of Psycholinguistic Abilities, Curiosity Box, Dog and Bone Test, Basic Concept Inventory, and Embedded Figures Test. The children were posttested with the Matching Familiar Figures Test. The major analyses focused on correlations for individual children with demographic and pretest control rather than on class means. Discriminant analyses were employed to describe differences among teachers using the same program.
Duration: September 1972-May 1976.
Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-OG-3 THE ART OF DEALING WITH INAPPROPRIATE VERBAL AND NON-VERBAL BEHAVIOR IN YOUNG CHILDREN

Investigator(s): John W. Hollomon, Ph.D., Associate Professor; Gloria Zamora, Ph.D., Assistant Professor; and Pamela Wer.on, Ed.D., Assistant Professor, Department of Early Childhood Education, University of Texas at San Antonio, San Antonio, Texas 78285.
Purpose: To collect and analyze data from experienced early childhood elementary teachers in

order to assess their techniques of dealing with children in critical classroom situations; and to use these findings to develop a compendium of techniques for dealing with behavioral problems, which could be used as a basis for training programs and for improving child-child and teacher-child communication.

Subjects: 114 experienced early childhood/elementary teachers (women, ages 25 to 45), who used their own students to collect event samples of inappropriate behaviors.

Methods: The teachers were asked to rate their biases or preferences using a set of particular childhood characteristics, to state specifically in writing their prejudices toward children's behaviors, and to state their beliefs about how children ought to behave in classroom situations. Trained to the criterion of the event sampling technique, they were asked to describe critical classroom situations and their reactions to them.

Findings: A given set of criteria can be used to categorize successful techniques of discipline. Experienced teachers have definite biases, prejudices, and beliefs about children, and these influence their interactions with children. A compendium of effective techniques for dealing with inappropriate behaviors can be developed. There is obviously a limit beyond which the experienced teacher is equipped to handle problems, and that is determined by the nature of the situation and by the consequences on the socioemotional development of the child.

Duration: February 1975-June 1976.

35-OG-4 EVALUATION OF STUDENT PROGRESS AND SCHOOL ENVIRONMENT IN THE ANISA EARLY CHILDHOOD EDUCATIONAL PROGRAM

Investigator(s): Ronald K. Hambleton, Ph.D., Director, Laboratory of Psychometric and Evaluative Research, School of Education, University of Massachusetts, Amherst, Massachusetts 01002.

Purpose: To develop and validate tests to measure selected outcomes of early childhood educational programs (e.g., goal setting ability, inflections, cooperative ability, attention, and classroom environments, and to provide ongoing evaluative data on the children in two Anisa implementation sites.

Subjects: Approximately 300 children, ages 5 to 7.

Methods: During the second year of the project, test and observational data were collected from random samples of children across three grades (kindergarten to grade 2) at the two Anisa project sites. Nearly all of the measures of cognitive, affective, and psychomotor skills were conceptualized, developed, and validated by the research team. In each instance, the researcher's tests either improved on existing testing materials or added materials that were not previously available. Most of the measures were administered individually to students.

Findings: Results show that the Anisa children are doing as well or better than children in several control group schools on most of the educational outcomes assessed in the evaluative study. In addition, teachers in the Anisa program are generally very enthusiastic about the Anisa program and the extent of student development and progress.

Duration: September 1973-June 1976.

36-OH-1 CHANGES OVER TIME IN CAREER PROJECTIONS OF LOW INCOME YOUTH

Investigator(s): A. Lee Coleman, Ph.D., Professor, Department of Sociology, University of Kentucky, Lexington, Kentucky 40506.

Purpose: To measure change and persistence in aspirations from preadolescence to late adolescence; to determine differences between the educational and occupational projection

processes and factors related to this and to school dropout; to assess sex, race, residence, and mother-child differences; and to assess factors which might be influenced to maximize career prospects of such youth.

Subjects: 1,300 fifth and sixth graders in six southern states originally interviewed in 1969; and their mothers. In addition, children of the same age group in the same schools were interviewed in 1975 and some of their mothers were also interviewed.

Methods: Unique features of the research are mother-child pairs in the original sample, low income sample, comparative data for white Appalachian rural youth, urban blacks, and rural blacks. Starting from baseline data obtained in 1969, the same respondents will be interviewed or answer questionnaires in school, and changes over time will be determined as percentage differences and rate change. The responses from 1969 of mothers and children will be tested for factors predicting why youths drop out before completing high school. Regression and variance analyses will be used to compare groups and differential characteristics. Educational and occupational aspirations will be compared as a measure of possible movement toward realism in career plans. Policy implications and applications will be spelled out.

Duration: January 1975-December 1977.

Cooperating group(s): Agricultural Experiment Stations of North Carolina, South Carolina, and Tennessee; Department of Life and Child Development, University of Tennessee, Knoxville; Departments of Family Life and Experimental Statistics, North Carolina State University, Raleigh; School of Home Economics, Winthrop College, Rock Hill, South Carolina; School of Criminal Justice, University of Maryland, College Park.

36-OJ-1 SCHOOL PERFORMANCE AS A FUNCTION OF EARLY STIMULATION

Investigator(s): Barry J. Guinagh, Ph.D., Associate Professor, Foundations of Education; and Ira J. Gordon, Ph.D., Graduate Research Professor, Institute for Development of Human Resources, College of Education, University of Florida, Gainesville, Florida 32611.

Purpose: To determine if there are lasting effects (into the school year) of early child stimulation from a parent education program for children, ages 3 months to 3 years.

Subjects: 107 children from 12 counties in north central Florida. The children are divided into three groups: (1) children in the project for 2 or more consecutive years, (2) children who were only in the study for the third year of the program (the combined home learning center small group experience and home visit program), and (3) children in a control group.

Methods: The general design is a repeated measure design to see if differences observed in IQ scores at age 6 between experimental and control groups are maintained into the early grades in school achievement and behavior. In addition, parental involvement with the schools will be examined. The investigators will interview each parent to obtain informed consent for permission to be part of the study. The Metropolitan Achievement Test has been given in the Alachua County School System in Fall 1973 and 1974 and will be given in Fall 1975. All children will have taken the third grade achievement test by Fall 1975. Performance of the third grade test can then be compared for all children. Test results for Fall 1975 will also be studied for the children who will be in the third, fourth, and fifth grade this Fall. Since the test scores are reported by local and national norms, the data can be combined.

Findings: To understand the results at age 6, it must be remembered that all phases of the intervention were completed 3 years previously. Some of the children have been out of the program for as long as 5 years. Results at age 6 show that children in the experimental group for all 3 years or for 2 consecutive years are superior to the control group on the Stanford-Binet. These differences are evident at least 3 years after the termination of the project.

Duration: September 1975-August 1976.

Cooperating group(s): Alachua County School System.

36-OK-1 STUDENT MENTAL HEALTH IN DESEGREGATED SCHOOLS

Investigator(s): Jane R. Mercer, Ph.D., Professor, Department of Sociology, University of California at Riverside, Riverside, California 92502.
Purpose: To identify the educational and social processes in desegregated multiethnic elementary schools that are associated with positive educational and mental health outcomes as measured by academic achievement, self-concept, anxiety, locus of control, educational and occupational expectations, attitudes toward school, stereotyping of other ethnic groups, and identity with own group.
Subjects: Third and sixth grade children attending 18 elementary schools who have the most negative outcomes, and children in 18 schools who have the most positive outcomes. The schools were selected because of data collected during 1973 and 1974 from a universe of 182 desegregated elementary schools in California.
Methods: Data were collected through questionnaires, observations, taped and written interviews, and content analysis of documents. The questionnaires used were Program Research on Integrated Multi-Ethnic Education (PRIME) Pupil Questionnaire; PRIME Teacher Questionnaire, and PRIME Principal Questionnaire.
Duration: June 1975-June 1978.

Special Skills

36-PA-1 PIAGETIAN TASKS AND PRIMARY SCHOOL MATHEMATICS

Investigator(s): Steven G. Vandenberg, Ph.D., Professor; and Arleen Garfinkle, B.A., Research Assistant, Institute for Behavioral Genetics; and Richard Simmons, Teaching Assistant, Department of Psychology, University of Colorado, Boulder, Colorado 80302.
Purpose: To establish the suitability of a battery of Piagetian tasks, selected from those used in independent investigations of Tuddenham (1970) and of Kaufman (1971, 1972) for future studies of factors influencing number and logic concept formation.
Subjects: 144 boys and girls who attend either a middle class or lower class neighborhood school. The sample is 25 percent Mexican American and is composed of 24 children at each level: kindergarten, first, and second grade in each school.
Methods: Each child is individually administered the Piagetian battery. Birthdate, ethnic background, present and future (6 months) school grades, Stanford Achievement Test scores, and parental occupations and educational levels are obtained by letter, phone, and/or school records. Task scores on Kaufman and Tuddenham tasks will be combined into composite scores and analyzed separately. Battery analysis will include scalogram and factor analyses and various reliability coefficients. Multiple regression will determine age, sex, socioeconomic class, and ethnic effects. School grades and Stanford Achievement Test scores will be correlated with two composites and total battery.
Findings: Preliminary results indicate that there are no sex or tester differences throughout kindergarten.
Duration: February 1975-January 1976.
Cooperating group(s): Rose Hill Elementary School; Southeast Elementary School; Spencer Foundation.

36-PB-1 EARLY IDENTIFICATION OF READING PROBLEMS

Investigator(s): Gary L. Brager, Ph.D., Office of Research; and James F. Skarbek, Ph.D., Office of Reading Services, Balto County Public Schools, Board of Education of Baltimore County, 6901 North Charles Street, Towson, Maryland 21204.
Purpose: To measure the validity of a set of tests used in diagnosing specific problems in pupils referred for special reading services.
Subjects: 100 children, randomly selected from pupils referred for reading services in grades 1 through 6; and 100 successful readers in grades 1 through 6.
Methods: A set of 14 tests was administered to two groups of children: one group who were randomly selected from children referred for reading services, and a contrast group of children who were reading successfully. Multiple regression was used, along with factor analysis, to see if the set of 14 tests used was validly providing data.
Findings: While the tests do clearly discriminate between the referred and contrast groups, the pattern or profile of the tests is not useful in diagnosing specific problems (as has been advocated by reading specialists). Moreover, the tests do not group into the modalities by which they are used.
Duration: June 1973-August 1975.

36-PB-2 GENETIC ANALYSIS OF READING DISABILITIES

Investigator(s): J. C. DeFries, Ph.D., Professor; Gerald E. McClearn, Ph.D., Professor and Director; and James R. Wilson, Ph.D., Professor and Associate Director, Institute for Behavioral Genetics, University of Colorado, Boulder, Colorado 80302.
Purpose: To identify possible heritable components of specific reading disability.
Subjects: 150 families in which there is at least one child (ages 7½ to 12) with a diagnosed reading disability; and 150 control families.
Methods: Test and questionnaire data will be fitted to various models of pedigree analysis, path analysis, and segregation analysis in an attempt to identify a specific mode of genetic transmission associated with the reading disorder. All the subjects are tested on measures of reading comprehension and recognition, spelling, and mathematics, as well as right-left discrimination, perceptual speed, spatial relations, auditory closure, auditory memory, visual closure, and verbal analogies. Children under 10 are also evaluated with respect to their performance on tests of grammatic closure, vocabulary, and object analogies. All testing is done individually. In addition to comparisons of mean scores on individual tests, the data will be subjected to various methods of multivariate analysis.
Findings: A preliminary analysis on 96 families revealed differences between probands and their matched controls on measures of reading recognition and comprehension, spelling, auditory memory, and perceptual speed. Several of these performance differences were also present in comparisons of siblings of controls and siblings of probands. Regarding the two groups of fathers, significant differences were found on reading recognition, reading comprehension, spelling, and perceptual speed. The only significant difference between the mothers of reading disabled children and mothers of controls was in spelling achievement. The data were also analyzed for association between left handedness and reading disability but no relationship was found.
Duration: August 1973-July 1976.
Cooperating group(s): Spencer Foundation, Chicago.
Publications: (1) Foch, T.; DeFries, J. C.; and Singer, S. M. Specific reading disability: A family study. *Behavior Genetics*, 1975, 5, 96. (2) Lewitter, F.; DeFries, J. C.; and Singer, S. M.

Family resemblance in reading ability: Path analysis. *American Journal of Physical Anthropology*, 1975, 42, 314.

36-PB-3 CHILDREN'S AND TEACHERS' UNDERSTANDING OF READING

Investigator(s): Anthony John Marcel, Scientific Officer, Applied Psychology Unit, Medical Research Council, 15 Chaucer Road, Cambridge, England CB2 2EF.
Purpose: To develop an alternative to characterizing reading failures in terms of abilities.
Subjects: Children, ages 4 to 8, in classes and under remediation; and their teachers.
Methods: In this study, the following problems will be investigated: (1) to characterize the knowledge necessary to read about procedures and tasks (including that not verbalizable), (2) to characterize the development of these knowledges according to different schemes, (3) to identify particular areas of omission of knowledge or difficulty in its transmission, and (4) to develop methods for improvement and remediation in the transmission of specific knowledges. The research design will involve discussions with children and teachers; observation and diagnostic use of reading tasks; *ad hoc* experiments; and artificial intelligence modeling.
Duration: January 1975-continuing.

36-PB-4 EFFECTS OF TEAMS-GAMES-TOURNAMENT VS. INDIVIDUALIZED INSTRUCTION ON LANGUAGE ARTS ACHIEVEMENT

Investigator(s): David L. DeVries, Ph.D., Research Psychologist, Center for Creative Leadership, 5000 Laurinda Drive, Greensboro, North Carolina 27402; and Philip Lucasse, Ph.D., Professor, Calvin College, Grand Rapids, Michigan 49506.
Purpose: To assess the effects of Teams-Games-Tournament (an instructional technique employing student teams and instructional games) and the effect of an individual instruction technique on achievement, attitude, and classroom policy.
Subjects: 1,900 seventh and eighth grade students from Grand Rapids, Michigan, who represented 72 classes taught by 24 teachers.
Methods: The research will be carried out using a quasi-experimental design with four experimental treatment conditions and one control condition. The data will be analyzed by a linear model (Cohen 1968).
Findings: The Teams-Games-Tournament method showed a significant effect on academic achievement when compared with the individualized instruction method.
Duration: May 1974-completed.
Cooperating group(s): National Institute of Education, Education Division, U. S. Department of Health, Education, and Welfare; Johns Hopkins University.

36-PB-5 SCANNING SPEED AND READING SKILL

Investigator(s): Andrew Biemiller, Ph.D., Associate Professor, Institute of Child Study, University of Toronto, Toronto, Ontario, Canada.
Purpose: To relate speeds of picture and letter identification to speeds of reading and reading achievement.

Subjects: 18 kindergartners, 20 first graders, 80 second graders, 40 third graders, 60 fourth graders, 20 fifth graders, and 20 sixth graders from an upper middle class laboratory school.
Methods: Children were presented with 50 random, typed letters on a sheet; 50 random primer words; and a 100-word primer test, and were instructed to read the words or letters as fast as they could but not to worry about mistakes. In some parts of the study, a sheet with 25 pictures was used, and in other parts, passages with more difficult texts were inserted.
Findings: Reading rates for pictures and letters are highly (.70 and up) correlated with reading rates for unrelated words and both simple and difficult text. Individual differences in reading speed were largely attributable to a general speed capacity and a capacity to identify words. Data indicate that context does not seem to play a significant role.
Duration: 1968-1976.

36-PC-1 AN EXPERIMENTAL EVALUATION OF A COMPUTER-BASED SCIENCE CAREER DIALOGUE EXPERIENCE FOR ELEMENTARY STUDENTS

Investigator(s): William J. Bukoski, Ph.D., Research Scientist; and Arthur Korotkin, Ph.D., Group Director, American Institutes for Research, 3301 New Mexico Avenue, N.W., Washington, D. C. 20016.
Purpose: To develop and test a series of computer based interactive dialogues that introduces science careers to fourth, fifth, and sixth graders with special emphasis on minorities and women.
Subjects: Approximately 1,000 children, ages 10, 11, and 12. Thirty to 40 percent of the children belong to minority groups.
Methods: The project will extensively evaluate the immediate and long-term effects of providing unbiased and nonstereotyped career awareness information. The project is a 2-year cross-sectional study of career awareness as a developmental phenomenon. The instruments used include both project developed interest and awareness inventories and the What Do I Want To Be Test and the Career Maturity Inventory. Differences between treatment and control groups will be assessed with analysis of variance techniques under a randomized block design.
Duration: January 1975-May 1977.
Cooperating group(s): Montgomery County Public Schools, Maryland; Office of Experimental Projects and Programs, U. S. National Science Foundation.

Special Education

36-QD-1 EVALUATION OF PROGRAM EFFECTIVENESS: THERAPEUTIC LEARNING CENTERS

Investigator(s): Ronald D. Hilliard, Ph.D., Clinical Psychologist, Des Moines Child Guidance Center, 1206 Pleasant Street, Des Moines, Iowa 50309.
Purpose: To explore, through a goal attainment scaling framework, the effectiveness of a group of therapeutic classrooms that seek to enhance the academic and sociopsychological competence of behavior disordered children.
Subjects: 40 children, 30 boys and 10 girls, ages 7 to 15, who appear to be unable to use regular

public school experience because of emotional disturbance.
Methods: Each subject is to serve as his own control, with pre- and posttests, and systematic follow-up measures taken to assess goal attainment. Educational measures, the Devereux Elementary School Behavior Rating Scale, and other standard psychological measures are to be used within a goal attainment scaling framework (in which the goals are constructed uniquely for each subject by the therapist) to appraise the success of the intervention.
Duration: 1975-continuing.
Cooperating group(s): U. S. Department of Health, Education, and Welfare; Orchard Place (a residential treatment facility for emotionally disturbed children).

36-QE-1 EARLY LEARNING PROJECT

Investigator(s): Margaret C. Wang, Ph.D., Associate Professor and Director; and Lauren Resnick, Ed.D., Associate Professor and Associate Director, Learning Research and Development Center, University of Pittsburgh, 3939 O'Hara Street, Pittsburgh, Pennsylvania 15260.
Purpose: To develop prescriptive curricula, exploratory environments, and learning materials for the education of children of early elementary grades (preschool through grade 3).
Subjects: Approximately 3,500 children who attended preschool, kindergarten, first, and second grade at an urban Pittsburgh public school; and approximately 300 children who attended kindergarten, first, and second grade in a lower/middle class community near Pittsburgh.
Methods: Developmental and basic research is being conducted on all aspects of school functioning-curriculum sequence, classroom organization, teacher training and staff development, and work with parents. Curricula have been developed and are being classroom tested or operational in mathematics, classification and communication perceptual skills, and reading and exploratory activities. The Early Learning Program is being implemented from preschool through the early elementary grades in the National Follow Through Programs of seven different school districts. Intensive evaluation of the project is being conducted in two public elementary schools. These schools serve as the developmental schools for the Learning Research and Development Center of the University of Pittsburgh. One school is located in an urban lower socioeconomic neighborhood, and one is located in a suburban lower-middle class working community near Pittsburgh. (See also *Research Relating to Children, Bulletin 28*, Study 28-QE-2, p. 105.)
Findings: Refer to Publications below.
Duration: 1967-1978.
Cooperating group(s): Ford Foundation; National Institute of Research; Pittsburgh Public Schools; Baldwin-Whitehall Public Schools.
Publications: (1) A paper presented at the AERA Annual Meeting, Washington, D. C., April 1975: Wang, M. C. and Stiles, B. Effects of the self-schedule system on teacher and student behaviors. (2) Resnick, L. B.; Wang, M. C.; and Rosner, J. Adaptive education for young children: The Primary Education Project. In Mary Carol Day (Ed.), *Preschool in action.* Boston: Allyn and Bacon, Inc., February 1975. (3) Wang, M. C. and Siegel, A. The rationale and design of the program content of an adaptive beginning-school learning environment: A position paper. Pittsburgh: Learning Research and Development Center, University of Pittsburgh. January 1975. (4) Resnick, L. B. and Robinson, B. H. Motivational aspects of the literacy problem. In John B. Carroll (Ed.), *Toward a literate society. LRDC Publication Series.* December 1974. (5) A paper presented at the APA Annual Meeting, New Orleans, Louisiana, September 1974: Wang, M. C. and Stiles, B. An investigation of children's concept of self-

responsibility for their school learning. (6) Wang, M. C. *The rationale and design of the self-schedule system.* Pittsburgh: Learning Research and Development Center, University of Pittsburgh. *LRDC Publication Series,* May 1974.

36-QE-2 THE CAROLINA ABECEDARIAN PROJECT: LONGITUDINAL INTERVENTION FOR HIGH RISK CHILDREN

Investigator(s): Craig T. Ramey, Ph.D., Associate Professor and Director of Research; and Ronald Wiegernik, Ph.D., Program Director; Frank Porter Graham Child Development Center, Highway 54 Bypass W, Chapel Hill, North Carolina 27514; and James J. Gallagher, Ph.D., Professor, Department of Special Education; Earl Schaefer, Ph.D., Professor, School of Public Health; Joseph Sparling, Ph.D., Associate Professor, Department of Early Childhood Education; James D. McKinney, Ph.D., Assoicate Professor, Department of Education; and Albert Collier, M.D., Assistant Professor, School of Medicine, University of North Carolina, Chapel Hill, North Carolina 27514.

Purpose: To determine the effects of an intervention program on children at high risk of sociocultural retardation.

Subjects: Four cohorts of 28 infants each (14 attend day care and receive medical care, and 14 are given nutritional assistance but no systematic day care). Cohorts are chosen from families at high risk, defined as having limited education and low income. Children, often recruited before birth, begin attending the Center at age 6 weeks. Cohorts were or are to be admitted in 1972, 1973, 1975, and 1976.

Methods: The program will focus on a number of developmental dimensions of health, family characteristics, and a variety of information processing skills. Research will include the study of a variety of potential linkages in early development: the influence of physical health on learning capabilities, stimulation of early vocal behavior, factors influencing stimulus selection, cognitive style, and task oriented behaviors. Standardized developmental and intellectual tests are administered periodically; and parental attitudes, the home environments, and mother-infant interactions are investigated with rating scales and analyses of videotapes. Multivariate analysis on successive measurements is the primary statistical treatment used.

Findings: A small systematic difference in intellectual development favoring the experimental group has been shown to date. Correlations between maternal attitude and maternal vocal behavior have been found. Systematic differences in attitude and home environment between the high risk groups and the general population have been found.

Duration: 1972-continuing.

Cooperating group(s): Public Health Service, U. S. Department of Health, Education, and Welfare.

Publications: (1) Gallagher, J. J.; Ramey, C. T.; Haskins, R.; and Finkelstein, N. W. The use of longitudinal research in the study of child development. In T. Tjossem (Ed.), *Intervention strategies for high-risk infants and young children.* University Park Press (in press). (2) Ramey, C. T.; Collier, A. M.; Sparling, J. J.; Loda, R. A.; Campbell, F. A.; Ingram, D. L.; and Finkelstein, N.W. The Carolina Abecedarian Project: A longitudinal and multidisciplinary approach to the prevention of developmental retardation. In T. Tjossem (Ed.), *Intervention strategies for high-risk infants and young children.* University Park Press (in press). (3) Ramey, C. T. and Mills, P. J. Social and intellectual consequences of day care for high-risk infants. In Roger Webb (Ed.), *Social development: Family and group experience.* Johns Hopkins University Press (in preparation). (4) Ramey, C. T.; Mills, P.; Campbell, F.; and O'Brien, C. Infants' home environment: A comparison of high-risk families from the general population. *American Journal of Mental Deficiency* (in press). (5) Campbell, F.; O'Brien, R.; Mills, P.; and Ramey, C. T. A comparison of the factor structure of Rotter's Internality-

Externality Scale in advantaged and disadvantaged young mothers. *Journal of Genetic Psychology* (in press). (6) Ramey, C. T.; Holmberg, M. C.; Sparling, J. J.; and Collier, A. M. An introduction to the Carolina Abecedarian Project. In Bettye M. Caldwell (Ed.), *Infant education*. Chapel Hill, North Carolina, Frank Porter Graham Child Development Center Monographs, 1975.

36-QF-1 PREPARATION THROUGH RESPONSIVE EDUCATIONAL PROGRAMS

Investigator(s): James Filipczak, M.S., Director; and Robert M. Friedman, Ph.D., Research Associate, Center for Education and Training, Institute for Behavioral Research, 2429 Linden Lane, Silver Spring, Maryland 20910.
Purpose: To develop and evaluate educational materials and procedures designed to facilitate the acquisition and performance of basic academic and social skills by junior high school students who are showing behavior and/or learning problems.
Subjects: Approximately 150 seventh through ninth grade students of both sexes in one rural and one urban junior high school.
Methods: A pretest and posttest control group design is being used to evaluate the progress of experimental and control groups. Dependent measures used include standardized achievement tests, student grades, attendance, suspensions, disciplinary referrals, and police contacts. Special procedures based on social learning principles are in effect in English, math, reading, and an interpersonal skills class. The effects of providing frequent feedback to parents are also evaluated on the dependent measures discussed above.
Findings: Over the course of 3 years in which the program has been operating in public junior high schools, experimental groups have consistently shown superior academic gains to control groups. Experimental students have also made greater progress in social measures, although these results are less consistent than the academic results.
Duration: May 1972-May 1979.
Cooperating group(s): Center for the Study of Crime and Delinquency, National Institute of Mental Health, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare; two school districts in the metropolitan area of Washington, D. C.

36-QF-2 SEARCH: A SCANNING INSTRUMENT FOR THE DETECTION OF CHILDREN VULNERABLE TO LEARNING FAILURE

Investigator(s): Archie A. Silver, M.D., Clinical Professor of Psychiatry and Director, Learning Disorders Unit, Department of Psychiatry; and Rosa A. Hagin, Ph.D., Research Associate and Professor of Psychology, Medical Center, New York University, 560 First Avenue, New York, New York 10016.
Purpose: To adapt the SEARCH instrument (for 5- and 7-year olds) to the preschool age groups, the 3- to 5-year olds.
Subjects: Approximately 1,000 children attending the Well-Baby Clinics in Nassau County, New York.
Methods: SEARCH for ages 5 to 7 has pointed to the antecedents of learning failure. The validity of these studies has encouraged the development of SEARCH for a younger group. Every child, ages 3 to 5, attending the Well-Baby Clinics will be subjected to individual testing which includes aspects of visual-auditory perception, the development of body image, and the establishment of cerebral dominance for language. Cumulative frequencies will be drawn and a

total score obtained. Children scoring in the lowest one-third of the distribution will be considered vulnerable and will be subjected to intensive neurological, psychiatric, and psychological study. These children will be followed until their entry into school.
Duration: 1975-1978.

36-QH-1 A MODEL FOR SURVEYING INTEGRATIONAL VARIABLES IN A HEARING IMPAIRED POPULATION

Investigator(s): Harriet Green Kopp, Ph.D., Chairman; and Arleen Kagan, M.A., Lecturer, Department of Speech Pathology, Audiology, and Deaf Education, San Diego State University, 5402 College Avenue, San Diego, California 92182.
Purpose: To present a model that may be replicated by school districts and county agencies in order to provide administrators with a basis for making decisions about the different kinds and amount of supportive services needed to ensure successful integration; to determine those diagnostic and supportive services required for effective integration and the delineation of a hierachical system of services resulting in maximal cost effectiveness; to identify variables selected from case history data that may influence the success or failure of integration; to locate the point in time at which the success or failure of integration may be predicted; and to determine the effect of long-term segregation in special classes for hearing impaired children, partial segregation for children with normal hearing, and placement in regular classes and special education programs other than those for the hearing impaired.
Subjects: 22 girls and 18 boys, ages 5 to 13, were selected from educational programs throughout nine school districts in San Diego County. Subjects were in kindergarten through sixth grade. The children were identified by audiometric test results and referred by school administrators, speech therapists, teachers, and nurses.
Methods: In this study, hearing impairment is defined as a "minimum average, unaided loss of 40dB binaurally or 60dB monaurally." Information for the survey was collected initially by means of a form mailed to each of the county school district Coordinators of Special Education, principals, nurses, and speech therapists. At a later date, the investigator contacted each of the respondents, and a complete case history was taken of the subject. In order to provide an estimate of integration success, a rating form, used by the Sterck School for the Hearing Impaired, Newark, Delaware, was supplied to each teacher of an integrated hearing impaired child. The evaluative information for the variables was subjective in nature and did not provide objective means of measurement. Therefore, arbitrary scaling points for each variable were identified and grouped as a basis for development of a rating scale. Relative values were assigned to each scale point as a base for quantitative comparisons. The data scaled under each variable were arranged in the form of tables or graphs.
Findings: The data identified specific parameters from which a profile of variables are developed to enable administrators and teachers to predict successful or lack of successful integration. Comparisons of subjective teacher estimates with the profile of variables provide a basis for objective placement procedures.
Duration: May 1974-completed.
Cooperating group(s): Project Search, an EHA Title VI-B Project, Department of Education, San Diego County.

SOCIAL SERVICES

36-RA-1 LEGAL AND JURISDICTIONAL PROBLEMS IN THE DELIVERY OF SRS CHILD WELFARE SERVICES ON INDIAN RESERVATIONS

Investigator(s): Edward C. Baumheier, Ph.D., Director; and Tillie Walker, M.A.; Janet Oerr, M.S.W.; and DeWitt John, M.A., Staff Members; and Brian Morgan, L.L.B., Research Social Scientist, Center for Social Research and Development, Denver Research Institute, University of Denver, Denver, Colorado 80210.
Purpose: To identify and analyze legal and jurisdictional problems (licensing, enforcement of tribal orders, and conflicting interpretations of agency responsibilities) in the delivery of SRS child welfare services on an Indian reservation; to identify practical consequences and means of dealing with the problems; and to identify policy alternatives.
Subjects: 120 service providing agencies on 10 Indian reservations.
Methods: The investigation involved field research and legal research. The field research included interviews with service providing agencies at their sites, including state/county welfare office, BIA, tribal social services, tribal council, day care centers, tribal court, and state/county court. The legal research focused on legal documents, memoranda, etc.
Findings: The major licensing and jurisdictional problems involved licensing, acceptance of tribal court orders, and agreement on roles and responsibilities of different agencies. Wide support was found among interviewees for tribal operation of child welfare services. An extensive list of policy alternatives was drawn.
Duration: July 1974-completed.
Cooperating group(s): Southwestern Indian Development; Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.

36-RB-1 ACTION RESEARCH STUDY ON COMMUNITY BASED INTERMEDIATE TREATMENT SERVICES FOR CHILDREN AND YOUTH IN FAMILY ADVICE CENTRE SETTINGS

Investigator(s): Aryeh Leissner, Senior Research Officer, National Children's Bureau, 8 Wakley Street, Islington, London EC1V 7QE, England. Address correspondence to: Department of Sociology, University of Keele, Staffordshire ST5 5BG, England.
Purpose: To set up and help maintain seven Family Advice Centre projects; to monitor all aspects of the work that could be regarded as relevant to the provision of these services; and to provide feedback information that may be translated into policy decisions and practical application.
Subjects: 1,405 children and young people from seven different areas of London.
Methods: The research design applied to the study may be described as an action-research approach, based upon establishing and adapting to the needs of seven demonstration projects. The services offered by the Family Advice Centre included (1) play groups and other preschool

activities for young children, (2) programs attracting children who are withdrawn or who exhibit aggressive acting out behavior, (3) youth clubs that absorb hard-to-reach youngsters, (4) projects that work with predelinquent or delinquent youths in their own environment, (5) recreational programs that attract the participation of difficult youngsters, (6) a range of programs involving youths in services to the community, and (7) informal educational programs that help youngsters make better school and work adjustments. The selected areas contained a high incidence of children being taken into care, a high incidence of multiproblem families, and a disproportionate percentage of departmental caseload in comparison to other areas. Sources of information used to monitor the study included (1) records and process reports on all aspects of services to children and youth, (2) all relevant material in the files and daily records of the Family Advice Centres, (3) questionnaires on all youngsters contacted by the project during a period of 3 months, (4) project teams' monthly discussion meetings, (5) monthly supervision meetings of the youth work staff, and (6) informal discussions and interviews of relevant persons employed by other statutory and voluntary agencies serving the target area.

Findings: Results indicated that the community based Family Advice Centre identified factors which precipitate social malfunctioning. It was indicated that these factors may be eliminated or alleviated, provided that they are accessible to change by local action and not caused by outside pressures including (1) poverty, (2) lack of adequate educational and employment facilities, or (3) generations of inadequate housing conditions culminating in ill-planned slum clearance projects. The combination of the advice guidance and assistance services to individuals and families of all ages with play group work and youth and community work proved, on the whole, effective. The community work method provided the most effective approach to enabling the community to improve its conditions. The findings also showed that the level of achievement in the provision of community based services for children and youth was directly related to the success of the Family Advice Centre teams in their community work. Success in fostering community participation varied widely in the different projects and was related to such factors as existing traditions of community cohesion or the prevalence of isolation and apathy in the target areas, as well as the community work skills and experience of the staff.

Duration: May 1970-April 1975.

Cooperating group(s): Home Office Children's Department; Department of Health and Social Security.

36-RC-1 YOUNG PARENTS SERVICE PROJECT

Investigator(s): Leo Miller, Ph.D., Professor, Department of Sociology, Rhode Island College, Providence, Rhode Island 02908.

Purpose: To evaluate a social service and health program offered to unmarried mothers and their babies.

Subjects: 151 unmarried mothers, ages 15 to 24; and their babies, followed from sometime during pregnancy to the baby's first birthday.

Methods: Two groups of pregnant out-of-wedlock mothers were alternately assigned, at the point of intake, to a demonstration and a control group. The demonstration group was provided with comprehensive social work care. A small second control group was also utilized, composed of nonapplicant mothers and rejected applicants. Social data were obtained by three semistructured interviews with the mother at the time of intake, 2 months after the baby's birth, and at the baby's first birthday. Other sources included interviews with putative fathers, obstetrical screening examinations, physician reports, hospital records, and a pediatric screening examination.

Duration: June 1970-January 1976.
Cooperating group(s): Rhode Island Department of Social and Rehabilitative Services; Office of Research and Development, U. S. Department of Health, Education, and Welfare.
Publications: An interim report is available from the Rhode Island State Department of Social and Rehabilitative Services, Providence.

36-RD-1 A RESEARCH STUDY IN ADOPTION MANPOWER

Investigator(s): Denise Thum, Ph.D., Project Director; and William Phillips, M.S.W., Research Assistant, Welfare Research, Inc., Building #4, New York State Office Building Campus, Albany, New York 12226.
Purpose: To survey the public and voluntary adoption agencies in New York in order to obtain basic information on the size and characteristics of the work force currently involved in providing adoption services in New York State.
Subjects: The respondent population will be all authorized public and voluntary agencies in New York State.
Methods: A two-phase questionnaire and inverviewer approach will be utilized. Phase I will employ a short 3-page questionnaire to be completed by agency administrators with a follow-up telephone interview on a selected sample of these agencies. In Phase II, adoption supervisors will be surveyed for more detailed information related to work force characteristics and problems.
Duration: April 1975-November 1975.
Cooperating group(s): New York State Department of Social Services, Board of Social Welfare.

36-RD-2 A STUDY OF INDEPENDENT ADOPTIONS

Investigator(s): Ann W. Shyne, Ph.D., Director of Research; and William Meezan, M.S.W., Research Associate, Child Welfare League of America, Inc., 67 Irving Place, New York, New York 10003; and Sanford Katz, L.D., Professor, Law School, Boston College, Chestnut Hill, Massachusetts 02167.
Purpose: To assess the risks to child, natural parents, and adoptive parents in independent adoption; and to identify legal, administrative, and practice changes needed to diminish these risks.
Subjects: A public and a voluntary agency in each of the states will compose the sample of agencies to be surveyed. Interview samples will be composed of about 100 adoptive and 100 natural parents who have been involved in independent adoption.
Methods: This is a descriptive study including several concurrent surveys to obtain facts and opinions as a basis for action. The methodology will entail an analysis of relevant state laws and their enforcement, questionnaires to selected adoption agencies in all states, and interviews with samples of adoptive and natural parents involved in independent adoptions in four metropolitan areas.
Duration: June 1975-June 1977.
Cooperating group(s): Children's Bureau, Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.
Publications: A report will be published by the Child Welfare League in late 1977.

36-RD-3 AN EVALUATION OF THE NEW YORK STATE ADOPTION EXCHANGE SYSTEM

Investigator(s): Hanna Grossman, M.S., Project Director; Doree Epstein, M.A., Research Associate; Anne Nelson, M.S.W., Research Assistant, Welfare Research, Inc., Building #4, New York State Office Building Campus, Albany, New York 12226.
Purpose: To conduct a thorough evaluation of the New York State Adoption Exchange.
Subjects: Adoption related agencies and citizen samples.
Methods: Data collection will be done by a five-person team working within the Adoption Exchange. A questionnaire will be mailed to all adoption related agencies and citizen samples to determine their experience with the Adoption Exchange. Three major areas of the New York State Adoption Exchange will be investigated. In the first part of the investigation, a complete review will be made of the technical aspects of the Exchange (including an evaluation of the present computer program that does the matching); an investigation will be conducted of other possibly more successful exchanges in other states for their technical aspects; and a study will be made of possible innovations, such as incorporating pictures of the children in the present system. This analysis would deal with all aspects of what could be called the "hardware side" of the Exchange. The second major area of investigation entails a careful review of the process that the Exchange initiates when it makes a referral to an agency. The final area of investigation involves a detailed review of the process by which agencies classify the legally adoptable children that they report to the Exchange.
Duration: January 1975-July 1976.
Cooperating group(s): New York State Adoption Exchange System.

36-RE-1 BASELINE STUDY OF CHILDREN IN FOSTER CARE

Investigator(s): Virginia Hayes Sibbison, Ph.D., Welfare Research, Inc., Building #4, New York State Office Building Campus, Albany, New York 12226.
Purpose: To expand baseline data on children in foster care; and to facilitate the development of a tracking system designed to prevent children from becoming locked in the system.
Subjects: 1,400 children who have continued in foster care, who have returned to their natural families, who have been moved into adoptive placement.
Methods: Indepth information will be collected on the children's physical, emotional, and intellectual status; the sources of such diagnoses; and caseworker assessments of such conditions and their impact. Three types of data will be collected. All information which is currently held on the study children in the Child Welfare Foster Care Data Tape will be retrieved. This data will be merged with that collected from agency caseworkers who are familiar with the child's care. Caseworkers will be asked to provide information (1) taken from case records of the children, and (2) on their own assessments of the child's characteristics and the implications of such characteristics on the future placement of the child. An easily completed questionnaire on each sample child will be delivered to the caseworker. Data collection will be facilitated by six site coordinators located in the highest density areas of foster children, and by two field coordinators located in Albany. Follow-up activities to encourage participation will be conducted by the coordinators. Data will be keypunched and placed on computer tape for analyses.
Duration: May 1975-January 1976.
Cooperating group(s): New York State Department of Social Services, Board of Social Welfare.

36-RE-2 INCREASING THE EFFECTIVENESS OF FOSTER CARE THROUGH THE USE OF A SERVICE CONTRACT

Investigator(s): Edith Zober, M.S.S.W., Research Division of Community Services, Iowa Department of Social Services, Lucas State Office Building, Des Moines, Iowa 50311.
Purpose: To prevent the drift of children into long-term foster care because of the absence of planning.
Subjects: 50 girls and boys, ages 5 to 17.
Methods: The investigator will attempt to demonstrate that the use of a service contract will increase the chances of each child in foster care to achieve an appropriate living situation. The research design involves a single group of children for whom goals will be set at intake and for whom structured monthly progress reports will provide data. A unique feature is the inclusion of biological parents, children, and foster parents in the contracts. Of the first 18 children in the project, the plan calls for foster care for a period of 1 year or less for 13 children, and for more than 1 year for five children. The plan includes 11 children to return home, three children to start independent living, two children to be adopted, and two children to remain in foster care. The statistical treatment will be counts and cross-tabulations and chi-square where appropriate.
Duration: September 1974-August 1977.
Cooperating group(s): National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-RF-1 NEEDS FOR CHILD CARE AND POTENTIALS FOR RURAL FAMILY AND COMMUNITY DEVELOPMENT

Investigator(s): Kathryn S. Powell, Ph.D., Professor, Family and Child Development, Winthrop College, Rock Hill, South Carolina 29733; and Sarah M. Shoffner, M.S., Research Instructor, Child Development and Family Relations, University of North Carolina at Greensboro, Greensboro, North Carolina 27412.
Purpose: To assess existing provisions and express needs for child care services in selected rural Carolina communities; to identify activities open to parents for individual, family, and community development; and to determine how mothers' released time provided by the child care services could contribute to participation in developmental activities.
Subjects: 600 mothers with children, ages 0 to 12, in selected rural North and South Carolina communities. There are approximately 50 mothers from each of the six randomly selected communities in each state, representing demographic and geographic regions of the two states.
Methods: The design of the research involves the use of potential recipients in surveying local resources. A comprehensive interview schedule has been developed for in-home interviews. The instrument is designed to assess needs of child care and projected use of local community resources. An inventory of maternal attitudes toward nonmother child care is being developed for use as an index of need. The composite picture of rural child care delivery systems in North/South Carolina resulting from individual and community profiles will be assembled to identify those child care needs unique to the rural family and community.
Duration: July 1974-June 1976.
Cooperating group(s): North Carolina University Agricultural Experiment Station and University of North Carolina at Greensboro cooperating; Clemson University Agricultural Experiment Station and Winthrop College cooperating.
Publications: Results will be published in the *Agricultural Experiment Station Bulletin* and will be available from the investigators.

36-RF-2 REGISTRATION OF FAMILY DAY CARE HOMES

Investigator(s): Jeralyn D. Harrold, M.S., Program Manager; Jacqueline A. Wood, M.A., Project Assistant, Family Day Care Home Licensing, Division of Day Care Licensing; and Reginald K. Carter, Ph.D., Acting Director, Social Services Evaluation and Program Analysis Division, Michigan State Department of Social Services, 300 South Capitol Avenue, Lansing, Michigan 48926.
Purpose: To study registration as possibly a more appropriate type of regulatory system than licensing from the operational viewpoint of effectiveness, efficiency, and economy.
Subjects: Six Michigan counties (four experimental and two control) matched by demographic characteristics. Approximately 1,900 family day care homes, licensed or registered to care for 6,350 children are included in the six-county sample, along with six county Department of Social Services regulatory units containing a total of 18 department personnel.
Methods: Michigan's six sample counties are divided into three sets composed of two counties per set with two sets serving as experimental counties and one set as the control group. Each set is currently conducting one of the following regulatory approaches: (1) registration including the two components of training and public information, (2) licensing with training and public information components identical to those of registration, and (3) licensing as currently practiced in Michigan. Descriptive data are being gathered on each county through forms and questionnaires sent to regulatory workers and family day care home providers. Two phases of data collection have been undertaken on a quarterly basis consisting of 1 year of predata and 1½ years of project data. Data collection focuses on the number of homes regulated, provider attitudes, inquiries about family day care, complaints relating to family day care homes, rule violations, number of children in care, cost per regulated home, and demographic information. Following the collection of data, a comparison of means between the experimental and control groups will be used as the statistical treatment.
Duration: July 1975-November 1976.

36-RH-1 MEASURES TO PREDICT CHILD ABUSE

Investigator(s): Mildred A. Disbrow, R.N., Ph.D., Professor; and Colleen Caulfield, M.N., Instructor, Maternal and Child Nursing; and Hans Doerr, Ph.D., Associate Professor; Psychiatry and Behavioral Sciences, University of Washington, Seattle, Washington 98195.
Purpose: To develop effective means for detecting potential child abusers by exploring various types of parental responses; and, through multivariate analysis, to determine what combinations of factors predispose to abuse.
Subjects: 60 abusive and 60 nonabusive families.
Methods: Parents and parent figures will be selected if they have children between ages 1 month and 2½ years. The study and control samples will be matched to mother's age, education, race and marital status, and on the age of the child. Four types of measures will be utilized: (1) interview schedule to cover family cohesiveness, self-esteem, social isolation, reference persons and early attachment; (2) a questionnaire consisting of attitude scales, parental modes of handling irritating behaviors, Christie's Machiavellian Scale, and Stotland's Empathy Scales; (3) Barnard's Behavioral Observation Scales to be used with videotaped parent-child interaction in the home; and (4) psychophysiological measures used to determine subject reaction to color videotapes of pleasant and stressful parent-child interaction. The data will be treated by multivariate analysis.
Duration: August 1975-Fall 1976.
Cooperating group(s): Division of Research, Maternal and Child Health Service; Bureau of Community Health Services, National Center for Health Services Research and Development,

Health Service and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-RH-2 IDENTIFICATION OF THE FACTORS EFFECTIVE IN THE DISCONTINUATION OF PARENTAL ABUSE AND NEGLECT

Investigator(s): Ann W. Shyne, Ph.D., Director, Research Center; and Deborah Shapiro, D.S.W., Research Associate, Child Welfare League of America, 67 Irving Place, New York, New York 10003.
Purpose: To identify factors in services provided and in the family's life situation that are associated with discontinuation of abusive or neglectful behavior on the part of parental figures.
Subjects: Approximately 250 families served by protective-service agencies in New York, Ohio, Minnesota, and Colorado. The agencies in the sample had received complaints of neglect or abuse in 1972.
Methods: The data will be collected by interviewing parents, reading case records, and interviewing the social workers involved. Analysis will focus on association between family and service variables and improvement or lack of it in parental adequacy.
Duration: May 1975-April 1977.
Cooperating group(s): National Center on Child Abuse and Neglect, Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.

36-RH-3 COORDINATING COMMUNITY CONCERN FOR CHILD ABUSE/NEGLECT

Investigator(s): Rand D. Conger, M.A., Research Director, Panel for Family Living, 1115 South 4th Street, Tacoma, Washington 98405. Address correspondence to: College of Human Development, Pennsylvania State University, University Park, Pennsylvania 16802.
Purpose: To develop effective treatment and coordination services to reduce the incidence of child abuse and child neglect in Pierce County, Washington.
Subjects: Over a 3-year period, between 300 and 500 clients will be served. To date, the majority of those served (68) percent) are between ages 21 and 30 (73 percent female, 27 percent male). range of ages extends from below 20 (11 percent) to over 40 (5 percent). Almost all clients are of low socioeconomic status.
Methods: No nontreatment control is available; therefore, each of the five treatment styles will be compared against the others using standard, ANOVA procedures. The data will be gathered through questionnaire and behavioral measures, and goal attainment scaling will be employed. Regression analysis will be used to compare background characteristics of successful and unsuccessful cases.
Duration: July 1974-May 1977.
Cooperating group(s): Berkeley Planning Associates.

36-RH-4 IDENTIFICATION AND DEFINITION OF FACTORS CAUSALLY ASSOCIATED WITH CHILD ABUSE AND NEGLECT

Investigator(s): Arthur H. Green, M.D., Clinical Associate Professor, Division of Child and Adolescent Psychiatry, Downstate Medical Center, Pavillion II, Room 208, New York State University, Brooklyn, New York 11203.
Purpose: To develop and test measures designed to predict three factors associated with child abuse; and to test the three-factor theory with these measures.
Subjects: 100 abusive mothers, 100 neglectful mothers, and 100 normal mothers, with children, ages 0 to 4.
Methods: Each group of subjects will be tested with instruments designed to measure each of three factors involved in causing the maltreatment syndrome. The factors are abuse-prone personality, environmental stress, and child vulnerability. Multivariate statistical procedures (discriminant analysis) will be employed to develop weighted scores for each of the predictor variables. Scales used include the Holmes-Rahe Schedule of Recent Experience and Helfer's Survey on Bringing Up Children. Scales will also be developed to test for these factors in an urban ghetto population.
Duration: June 1975-May 1977.
Cooperating group(s): Bureau of Child Welfare, New York City; Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.
Publications: Green, A.; Gaines, R.; and Sandgrund, A. Child abuse. Pathological syndrome of family interaction. *American Journal of Psychiatry*, 1974, 131, 882-886.

36-RH-5 DEMONSTRATION CENTER FOR CHILD ABUSE AND NEGLECT

Investigator(s): Victor C. Vaughan, III, M.D., Medical Director, Saint Christopher's Hospital for Children, 2600 North Lawrence Street, Philadelphia, Pennsylvania 19133.
Purpose: To augment and expand services currently being offered to families in which child abuse or neglect has occurred, or to families at risk, through the development of lay therapists to be drawn from child care workers in the community.
Subjects: Approximately 200 families per year; about 400 children.
Methods: Trained child care workers will be employed to carry services to families involved in or at risk of defective parenting. The child care workers will be instructed in the needs of such families. Appropriate skills and insights going beyond basic principles of child care will be developed. Visits will be made to the homes; parent groups will be developed; and the possibilities of such other services as respite care will be explored.
Duration: January 1975-June 1978.
Cooperating group(s): Child Care Training Program, School of Social Administration, Temple University.

36-RH-6 STUDY OF CHILD ABUSE AND NEGLECT AMONG LOW INCOME FAMILIES IN NEW JERSEY

Investigator(s): Ludwig Geismar, Ph.D., Director, Research Center, Graduate School of Social Work, Rutgers University, New Brunswick, New Jersey 08903; and Bernard Horowitz, Ph.D., Director of Research, Division of Youth and Family Services, 1 South Montgomery Street, Trenton, New Jersey 08625.

Purpose: To gain further knowledge about factors related to child abuse and neglect in a low income population group.
Subjects: 800 recipient families, randomly selected from the files of the New Jersey Aid to Families of Dependent Children.
Methods: Four hundred child neglecting and 100 child abusing families will be compared with respect to various characteristics including family structure and functioning, childrearing knowledge, attitudes and practices, child and parental health, parental use of drugs and alcohol, and economic status. Multivariate statistical techniques will be used.
Duration: July 1975-June 1977.

36-RH-7 UCLA CHILD TRAUMA INTERVENTION PROJECT

Investigator(s): Morris J. Paulson, Ph.D., Associate Professor in Residence, Center for the Health Sciences, Neuropsychiatric Institute, University of California at Los Angeles, 760 Westwood Plaza, Los Angeles, California 90024.
Purpose: To determine the effect of secondary intervention in treating identified abusive parents referred from the Los Angeles County Department of Public Social Services (DPSS).
Subjects: Parents and caretakers of abused, neglected, maltreated, or failure-to-thrive children. The children are 5 years and 11 months or younger.
Methods: The parents are assigend to one of three groups: (1) a group that receives psychotherapy alone, (2) a group that receives psychotherapy and child management training, or (3) a group that acts as a control group receiving traditional DPSS casework supervision.
Findings: The great majority of identified abusive parents are amenable to psychotherapy. Group psychotherapy and group psychotherapy augmented by child management information are procedures that make for more effective rehabilitation.
Duration: 1974-1980.
Cooperating group(s): Los Angeles County Department of Public Social Services.
Publications: (1) Paulson, M. J. Early intervention and treatment of child abuse. *Psychiatric Opinion* (in press). (2) Paulson, M. J. Child trauma intervention: A community response to family violence. *Journal of Clinical Child Psychology,* Fall 1975 (in press). (3) Paulson, M. J. *et al.* A discriminant function procedure for identifying abusive parents. *Suicide* (formerly *Life Threatening Behavior)* 1975, 5(2), 104-114. (4) Paulson, M. J. *et al.* An MMPI Scale for identifying "at risk" abusive parents. *Journal of Clinical Child Psychology,* 1975, IV(1), 22-24. (5) Paulson, M. J. *et al.* The MMPI: A descripitve measure of psychopathology in abusive parents. *Journal of Clinical Psychology,* 1974, 30(3), 387-390. (6) Paulson, M. J. Parents of battered children. *Western Journal of Medicine,* 1974, 120 (4), 313.

36-RH-8 PROJECT TODDLER: A PREVENTIVE MENTAL HEALTH PROGRAM FOR VERY YOUNG CHILDREN

Investigator(s): P. Susan Stephenson, M.D., Associate Professor and Head, Division of Child Psychiatry, University of British Columbia, 717 West 10th Avenue, Vancouver, British Columbia, Canada V5Z 1L6.
Purpose: To demonstrate the effectiveness of early intervention in very young children by setting up a demonstration program which is related to local needs and uses preventive mental health techniques with very young children and their families.
Subjects: Boys and girls, ages 1½ to 3, from seriously disadvantaged families where the parents

were abusing and/or neglecting their children.
Methods: A control group of children who were not in the program is being compared with a group of children who attended the demonstration project for a year or more, and another group of children who were involved with the demonstration program for less than a year. The groups have been compared initially 2 years from the time of entry in the project and will be compared again 5 years from the initiation of the program. At that time they will be in school and further material will be available. Tests of intellectual functioning are used, along with parental attitude research inventory, behavior scales, and extensive data on family functioning.
Findings: Children who were involved with the demonstration project for more than 1 year have a significant and uniformly positive increase in IQ (14 points) compared to the other two groups. Family functioning is significantly improved in the 1+-year group, with heads of families leaving social assistance, taking up-grading, and obtaining permanent jobs.
Duration: 1972-1978.
Cooperating group(s): Vancouver Resources Board; Vancouver General Hospital.
Publications: An interim report describing the demonstration program in detail is available from the investigator.

36-RH-9 IDENTIFICATION OF THE FACTORS EFFECTIVE IN THE DISCONTINUATION OF PARENTAL ABUSE AND NEGLECT

Investigator(s): Deborah Shapiro, D.S.W., Research Associate, Child Welfare League of America, Inc., 67 Irving Place, New York, New York 10003.
Purpose: To identify the factors in the services given and in the family's life situation that are associated with the discontinuation of abusive or neglectful behavior on the part of parental figures and the circumstances under which these factors are and are not effective.
Subjects: Approximately 250 families who were referred to six public protective service agencies in 1972-1973 because of alleged abuse or neglect of their children.
Methods: This is a diagnostic-descriptive study, with data on the relationship between the independent and dependent variables obtained through interviews with, and review of case records on, a sample of 250 families known for 2 to 3 years earlier to six public protective service agencies.
Duration: May 1975-April 1977.
Cooperating group(s): Children's Bureau, Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.
Publications: A report will be published by the Child Welfare League of America late in 1977.

36-RH-10 PRO-CHILD: A MODEL CHILD ABUSE AND NEGLECT DEMONSTRATION PROJECT

Investigator(s): Julia Kanwit, M.S.W., Director; and Cynthia Ragan, M.S.W., Coordinator, Pro-Child Unit, Social Services Division, Arlington County Department of Human Resources, P. O. Box 4310, Arlington, Virginia 22204.
Purpose: To replace a traditional protective services unit with a comprehensive community oriented approach directed toward early diagnosis, evaluation, and treatment.
Subjects: All children, ages 0 to 18, residing in Arlington County, Virginia, who are referred for services due to an abuse/neglect complaint. Approximately 433 families and 900 children have been studied.

Methods: The primary research design is based on the Berkeley Planning Associates' project, which studies factors involving client impact, cost effectiveness, etc. for 11 demonstration projects. A Catholic University program is researching the parents' ability to nurture and protect their children and is comparing protection service clients to family service clients.
Duration: May 1974-May 1977.
Cooperating group(s): Catholic University of America; Berkeley Planning Associates; Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.

36-RH-11 FAMILY INTERACTION PATTERNS RELATED TO CHILD ABUSE AND NEGLECT

Investigator(s): Robert C. Burgess, Ph.D., Professor; and Rand D. Conger, M.A., Instructor, College of Human Development, Pennsylvania State University, S-110 Human Development Building, University Park, Pennsylvania 16802.
Purpose: To accurately describe the patterns of interaction in families who have experienced either problems of child abuse or child neglect; to contrast these patterns with a group of control families; and to examine a number of other factors, in order to explore the possible effects they may have on not only the incidences of abuse or neglect, but on the varying patterns of interaction that exist between types of families.
Subjects: 75 families, equally divided between abuse, neglect, and control groups with abused or neglected children, ages 3 to 10. The families will consist of both the mother and father or mother and father substitutes and at least two children. The age ranges of the adults in the home are variable.
Methods: The research is aimed essentially at discovering the unique features of interaction which exist across the three family types. Families are selected either through child welfare agencies or by door-to-door interviewers. Once a family is selected, a series of four appointments are scheduled. These appointments are approximately 1 to 1½ hours long, and during these times, two observers systematically collect data on the interaction within families as they participate in simple games or tasks. In addition to the observation materials, data are collected using several questionnaire devices. The questionnaire instruments used include the Helfer/Schneider Survey on Bringing Up Children, the Holmes/Matsuda Schedule of Recent Experiences, the National Clearinghouse on Child Abuse Information-Short Form, Standardized Child Development Test, and a questionnaire unique to this particular study which seeks to ascertain the perceptions of the parents toward their various children. Analysis of these data will include the use of standard multiple regression techniques. In addition to these procedures, an attempt will be made to ascertain the sequential probabilities that exist between varying behavior of individual family members. Finally, reciprocity between rates of behavior by individual family members will be analyzed in order to describe behavior exchange within the different family types.
Duration: July 1975-July 1978.
Cooperating group(s): Pennslyvania State Survey Research Laboratory; Department of Public Welfare, State of Pennsylvania; Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.

36-RH-12 AN EXPLORATORY STUDY OF DEFINING AND CLASSIFYING CASES OF CHILD ABUSE

Investigator(s): Richard J. Gelles, Ph.D., Assistant Professor, Department of Sociology, University of Rhode Island, Kingston, Rhode Island 02881.
Purpose: To learn how definitions of child abuse are formed, what factors are used by diagnosticians as indicators of abuse, and how these two items (definitions and classification schemes) are translated into treatment programs.
Subjects: 300 physicians, 250 private social workers, 150 public social workers, and 300 elementary school principals and counselors, all from Rhode Island.
Methods: The investigator will examine definitions of child abuse and classificatory schemes employed by three classes of diagnosticians likely to encounter child abuse: doctors, private social workers, and public school counselors. Six hundred and fifty questionnaires will be sent to these personnel throughout the state of Rhode Island. Follow-up interviews will be conducted with those indicating experience with cases of suspected abuse.
Findings: The interaction process between agencies and clients during the discovery and investigation of cases of child abuse is not different from the processes and contingencies that influence the interaction between community agencies and families in general. Agencies, far from being simply reactive social units, are active in terms of determining what problems they will and will not deal with. Agencies and their workers are influenced by their power position in the community, and their acts are constrained as a result of the professional-client relationship. All agencies develop an occupational shorthand by which they can more routinely and efficiently interact with their clients. The processes by which agencies define their mandate and the processes which constrain agency-family interaction determine what services will be provided, to whom, and how effectively.
Duration: July 1975-June 1977.
Cooperating group(s): National Center on Child Abuse and Neglect, Office of Child Development, Office of Human Development, U. S. Department of Health, Education, and Welfare.
Publications: (1) Gelles, Richard J. The social construction of child abuse. *American Journal of Orthopsychiatry,* April 1975, 45, 363-371. (2) Gelles, Richard J. *The violent home: A study of physical aggression between husbands and wives.* Beverly Hills: Sage Publications, Inc., 1974. (3) Gelles, Richard J. Child abuse as psychopathology: A sociological critique and reformulation. *American Journal of Orthopsychiatry,* July 1973, 43, 611-621.

36-RJ-1 FOLLOW-UP OF FORMER RESIDENTS OF EVANSTON CHILDREN'S HOME

Investigator(s): Ann M. Rotschild, M.S.W., Study Director, Illinois Children's Home and Aid Society, 1122 North Dearborn Street, Chicago, Illinois 60610.
Purpose: To determine present whereabouts, functioning, and attitude toward experiences at the Evanston Children's Home of those served in the agency's intensive care facility.
Subjects: 41 former residents, discharged from 1952 to 1975. The sample is composed of both sexes and the subjects are now ages 21 to 38.
Methods: After finding and eliciting willingness to participate of as many subjects as possible, a structured interview was held with each participant. Interviews were written up and used to rate current functioning and attitude toward experiences as residents. Available information on nonrespondents will be compared with similar data for respondents.
Duration: November 1974-Summer 1976.

36-RJ-2 CHILDREN'S HOME AS THE ENVIRONMENT OF THE CHILDREN'S DEVELOPMENT

Investigator(s): Mogens Kjaer Jensen, A.M./M.Sc., Research Associate, Danish National Institute of Social Research, Borgergade 28, DK-1300, Copenhagen K, Denmark.
Purpose: To describe the institutions as the children perceive them, and thereby to elucidate the problem of placing mainly normally developed children in a children's home.
Subjects: A number of institutions for boys and girls, ages 2 to 14.
Methods: The data collecting process will be participant observation, supplemented by interviews with children and home personnel. No particular control groups will be used, but part of the data will be compared with data of children living with their own family.
Duration: December 1974-January 1978.

36-RL-1 YOUNG CHILDREN IN BRIEF SEPARATION

Investigator(s): James Robertson, Soc. Sci. AAPSW; and Joyce Robertson, Psychologist, Senior Project Officers, Tavistock Institute of Human Relations, Tavistock Centre, 120 Belsize Lane, London NW3, England.
Purpose: To study the influence of variables including age, level of maturity and object constancy, previous parent-child relationship, and quality of substitute care on responses of young children to separation from the mother; and to illustrate optimal substitute care.
Subjects: Five children, ages 1.5 to 2.5, healthy, loved, and never previously out of the mother's care.
Methods: The research design involves nonstatistical naturalistic observations throughout the waking day, with checklists and tape and cine verité recordings. One child was observed throughout a 9-day stay in a residential nursery where staff were kindly intentioned but did not provide substitute mothering or consideration of individual needs. Four matched children were taken into a worker's home where avoidable stresses were eliminated and needs were met by one mothering person.
Findings: Contrary to much of the literature, separation *per se* does not cause acute stress and despair, but rather anxiety can be kept to a minimum and development allowed to continue. Data indicate that 1½-year olds make a complete transfer to caretaker, while 2½-year olds are more ambivalent. The institutionalized child shows evidence of trauma and cumulative stresses after 6 years.
Duration: 1965-1976.
Cooperating group(s): British National Health Service; Grant Foundation, Inc., New York, New York.
Publications: (1) Robertson, J. and Robertson, J. Substitute mothering for the unaccompanied child. *Nursing Times,* November 1973. (2) Robertson, J. and Robertson, J. Quality of substitute care as influence on separation responses. *Journal of Psychosomatic Research,* 1972, 16, 261-265. (3) Robertson, J. and Robertson, J. Young children in brief separation. *Psychoanalytical Study of the Child,* 1971, 26, 264-315. This article describes a project within which the following films were made: (a) John, 17 months, for 9 days in residential nursery. (b) Jane, 17 months, in foster care for 10 days. (c) Kate, 2 years 5 months, in foster care for 27 days. (d) Thomas, 2 years 4 months, in foster care for 10 days. (e) Lucy, 21 months, in foster care for 19 days.

HEALTH SERVICES

36-SA-1 CHRONICALLY SICK CHILDREN AND THEIR SOCIAL CONDITION

Investigator(s): Helka Urponen, M.A.; and Tuomas Peltonen, Professor, Children's Hospital, University of Turku, 20520 Turku S2, Turku, Finland; and Hannu Vuori, M.A., Professor, Department of Community Health, University of Kuopio, Box 140, 70101, Kuopio 10 Finland.
Purpose: To investigate the prevalence rate of chronically sick children who are in out-hospital care in Finland; and to investigate their social conditions.
Subjects: 12,721 children, ages 0 to 15.
Methods: Data were collected on children in domestic care with various kinds of chronic diseases through the reports of public health nurses.
Findings: The total prevalence in the country was 52.8 chronically sick children per 1,000 under 16 years. The most common types of diseases were diseases of the sense organs (35 percent), congenital diseases and malformations (23 percent), and allergic diseases (16 percent).
Duration: 1971-1976.

36-SA-2 MODEL DEVELOPMENTAL ASSESSMENT

Investigator(s): Dennis C. Harper, Ph.D., Assistant Professor, Department of Pediatrics, University Hospital School, University of Iowa, Iowa City, Iowa 52242.
Purpose: To develop and test a variety of developmental assessment procedures; and to investigate the relationship between early health screening measures and later health outcomes in children.
Subjects: All Title 19 children, ages 0 to 6, who are examined at an early and periodic screening, diagnosis, and treatment (EPSDT) clinic conducted by the Iowa State Services for Crippled Children personnel.
Methods: Medical, developmental, behavioral, and family history data will be collected on all children screened at EPSDT clinics. Data are currently being collected on the incidence, types, and severity of all health problems. Following EPSDT examination, documentation of follow-up services is determined. Follow-up includes a determination of whether a referral has been completed, in addition to whether the referral was, in fact, appropriate. Children will be seen on a longitudinal basis for 3 years and medical, developmental, and behavioral data will be collected and reliability of the screening measures will be studied. The analysis will attempt to determine the efficiency of a health screening program on the basis of its ability to adequately identify those health problems of *at risk* children in a rural state. The effectiveness of this health surveillance program will be determined not only by its yield rate, but also by its ability to provide follow-up services. A longitudinal investigation of approximately 400 children utilizing a repeated measurement design will be done to attempt to examine a variety of developmental assessment procedures. The analysis will attempt to determine the reliability, validity, and interrelationship among the proposed screening measures. The data will be examined to

determine the most efficient predictors for a developmental screening procedure.
Findings: Sixty-five percent of those youngsters screened between 0 and 6 years of age needed further medical, developmental, or behavioral evaluations. Over 50 percent of the children had one or more health problems. An 80 percent agreement with local diagnosticians indicates that the current false positive rate is approximately 20 percent.
Duration: September 1974-August 1977.

36-SD-1 SUDDEN UNEXPECTED DEATH IN INFANTS

Investigator(s): Robert Steele, M.D., Head, Department of Community Health and Epidemiology, Queen's University, Kingston, Ontario, Canada.
Purpose: To further elucidate by epidemiologic methods the cause of sudden unexpected death in infants (S.U.D.).
Subjects: Parents in southern Ontario whose infants have died suddenly.
Methods: Infants who have died from pathologically established S.U.D. are matched with live controls by birthdate and location. The parents of both groups of infants are interviewed with a standard questionnaire, which involves queries on (1) dietary changes and supplements of the mother during pregnancy and lactation, (2) history of the health and illnesses of the infant, (3) immunizations the infant received, (4) milk and other supplements the infant received, (5) eating and sleeping patterns of the infants, and (6) outdoor exposure of the mother during pregnancy and lactation. The S.U.D. parents were also asked about the circumstances surrounding the death of the infant.
Duration: April 1974-June 1976.
Cooperating group(s): Hospital for Sick Children, Toronto, Ontario, Canada.

36-SD-2 EVALUATION OF PRENATAL CARE AND PREGNANCY OUTCOME

Investigator(s): George K. Tokuhata, Dr.P.H., Ph.D., Director; Virginia Colflesh, Project Coordinator; Martha Smith, Research Associate; Edward Digon, Chief Statistician; and Linda Mann, Statistician, Bureau of Program Evaluation, Pennsylvania Department of Health, P. O. Box 90, Room 725, Harrisburg, Pennsylvania 17120; and Charles A. Rohrabaugh, M.D., Director, Department of Obstetrics and Gynecology, Harrisburg Polyclinic Hospital, 2601 North 3rd Street, Harrisburg, Pennsylvania 17105.
Purpose: To identify overall distribution patterns of prenatal care within a total cross-sectional population; to determine how physician characteristics, previous medical history, and index pregnancy status are related to the practice of prenatal care; to evaluate the influence of prenatal care upon certain selected measures of pregnancy outcome and assess the role of intervening variables; to perform analyses of the need-demand-supply of prenatal care; and to delineate unmet needs and problems as expressed by consumers for improvement of content and method of delivery of prenatal care by both private and governmental providers.
Subjects: A combined cohort of approximately 6,000 deliveries will be studied, including 100 stillbirths.
Methods: This is a retrospective cohort study of all resident pregnancies reported during a 2-year period in Dauphin County, Pennsylvania. Basically five different methods of analysis will be used, each related to the five major objectives stated under the purpose. Descriptive analysis of variables will be used to determine distribution patterns in the whole county, and association analysis will be used to determine relationships between identified variables. A controlled

analysis of the prenatal care-pregnancy outcome relationship will be done, including the use of relative risk analysis and multiple regression and correlation. A need-supply-demand analysis will be done in terms of numerical and spatial distribution, and an analysis of unmet needs and problems will be used to analyze and summarize the content.
Duration: July 1974-June 1977.
Cooperating group(s): Harrisburg Hospital; Community General Osteopathic Hospital; Milton S. Hershey Medical Center, Pennsylvania State University College of Medicine; Holy Spirit Hospital.
Publications: Interim reports are available from the Bureau of Program Evaluation, Pennsylvania Department of Health.

36-SD-3 APPLICATION OF ALPHA-FETOPROTEIN (AFP) TO PRENATAL CARE

Investigator(s): H. Lorrin Lau, M.D., M.P.H., Johns Hopkins University School of Medicine, Biophysics 205 A, 725 North Wolfe Street, Baltimore, Maryland 21205.
Purpose: To apply alpha-fetoprotein (AFP) testing on a routine basis to prenatal care in an entire obstetrical population and to compare the effects of having the results of AFP tests against not having the results of AFP tests in terms of changes in obstetrical management and pregnancy outcome; and to compare three simple tests and a radio immunoassay in terms of clinical usefulness, the availability of results, and reliability (accuracy, sensitivity for clinical purposes, and precision).
Subjects: All prenatal patients using the Johns Hopkins Hospital Clinic.
Methods: A total of 2,000 patients over 1½ to 2 years will be distributed by a computer printout of randomized numbers into a control group in which results are not reported and a test group in which the results are reported either for the simple tests or the radioimmunoassay.
Duration: January 1975-continuing.
Cooperating group(s): Maternal and Child Health Service, Health Services Administration, Public Health Service, U. S. Department of Health, Education, and Welfare.

36-SD-4 THE PEDIATRICIAN/PSYCHOLOGIST PARTNERSHIP

Investigator(s): Rose Zeligs, Ed.D., Clinical Psychologist; and Mendel Zeligs, M.D., Pediatrician, 14256 Ventura Boulevard, Sherman Oaks, California 91423.
Purpose: To report the benefits derived from the association of a pediatrician and a psychologist in the same office, for the purpose of treating the whole child as a person who has both medical and psychological needs.
Subjects: All parents and children who come for both medical and psychological care to an office where a pediatrician in private practice and a psychologist are associated.
Methods: Both the pediatrician and psychologist see the child and his parents and confer with each other. They all know each other and are available to each other for help and advice. The psychologist helps the pediatrician by being easily available to deal with everyday problems, emergencies, and very serious medical problems that contribute to emotional disturbances. The psychologist also sees patients of her own. The pediatrician confers with her when needed.
Findings: Such an association contributes to the growth of patients and professionals, and creates a climate of trust and helpfulness. The report (see Publications below) is illustrated with case histories of children facing divorce, sudden infant death syndrome, and a mother dying.
Duration: 1956-continuing.

Publications: Zeligs, Rose. The pediatrician/psychologist partnership. *Feelings and Their Medical Significance*, January-February 1976, 18(1). (Published by Ross Publications, Ross Laboratories, Columbus, Ohio 43216.)

36-SG-1 STUDY OF THE RELATIONSHIP BETWEEN MENTAL HEALTH SERVICES AND A RIGHT TO EDUCATION LAW

Investigator(s): Helen Reinherz, Sc.D., Professor, School of Social Work, Simmons College, 51 Commonwealth Avenue, Boston, Massachusetts 02116.
Purpose: To analyze the impact on communication, referrals, and delivery of mental health services to special needs children by a new law mandating screening and service responsibility of local schools.
Subjects: 24 individuals from six representative communities: eight official liaisons to schools or mental health workers in each locality, six directors of special education programs in each locale, six parents of handicapped children designated by the Parent Advocacy Group to monitor implementation of the program, and four individuals with major roles in passage of law and monitoring.
Methods: The subjects selected special needs children (defined by law as physically, emotionally, learning, or otherwise handicapped) who required some adaptation of program and/or treatment to benefit from public education. The design of the study involved an exploratory survey of the first 6 months. Subjects participated in structured, standardized interviews, which tapped perceptions of changes seen by each group of respondents as well as assessment of facilitators and barriers to implementation. The views of each group were sought to allow for contrast of experience as well as similarities. The standardized interviews were treated by content analysis. This study will be replicated in 1976 to assess changes during the second year.
Findings: The law has resulted in considerable *mainstreaming* of children with special needs. However, the formalization of communication and lack of clarity of the regulations have led to some conflict. Results will be fed back to mental health and education systems.
Duration: January 1975-June 1976.
Cooperating group(s): Massachusetts Department of Mental Health.

36-SH-1 CHILDHOOD LEAD POISONING PROJECT

Investigator(s): J. Julian Chisolm, Jr., M.D., Associate Professor of Pediatrics, School of Medicine, Johns Hopkins University; and Associate Chief Pediatrician, Department of Pediatrics, Baltimore City Hospitals, 4940 Eastern Avenue, Baltimore, Maryland 21224.
Purpose: To evaluate the reliability and cost effectiveness of the measurement of protoporphyrin in blood (PIB) as a primary method for screening preschool children at risk for lead poisoning.
Subjects: 155 girls and boys, ages 1 to 5.
Methods: The subjects' blood will be analyzed for blood lead and erythrocyte protoporphyrin. Three methods will be used to determine erythrocyte protoporphyrin: the acidified acetone method, FEP method, and direct zinc protoporphyrin method. Results will be analyzed according to multivariate regression analysis in order to determine at what level lead absorption deviation from the normal occurs.
Findings: Erythrocyte protoporphyrin measurements serve as an integrator of long-term

absorption, are more stable than blood lead values as obtained in children, but also show responsiveness to changes in exposure and responses to therapy.

Duration: July 1973-continuing.

Cooperating group(s): Baltimore City Health Department; John F. Kennedy Institute.

Publications: (1) Chisolm, J. J. and Brown, D. H. Micro-scale photofluorometric determination of "free erythrocyte porphyrin" (protoporphyrin IX). *Clinical Chemistry*, 1975, 21(11), 1669-1682. (2) Chisolm, J. J.; Barrett, M. B.; and Mellits, E. D. Dose-effect and dose-response relationships for lead in children. *Journal of Pediatrics*, December 1975, 87, 1152-1160. (3) Chisolm, J. J.; Mellits, E. D.; and Barrett, M. B. Interrelationships among blood lead concentration, quantitative daily ALA-U and urinary lead output following calcium EDTA. In G. F. Nordberg (Ed.), *Task group on mental toxicity: Effects and dose-response relationships of toxic metals*. Amsterdam, The Netherlands: Elsevier Publishing Co., 1975.

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OTHER ABSTRACTING JOURNALS AND SERVICES

Abstracts of Hospital Management Studies (quarterly), the Cooperative Information Center of Hospital Management Studies, University of Michigan, 220 East Huron Street, 419 City Center Building, Ann Arbor, Michigan 48108.

Abstracts on Criminology and Penology, Criminological Foundation, Rapenburg 38, Leiden, The Netherlands.

Communication Disorders, Information Center for Hearing, Speech, and Disorders of Human Communication, The Johns Hopkins Medical Institutions, 310 Harriet Lane Home, Baltimore, Maryland. 21205.

Current Awareness Service (monthly), the Institute for Research into Mental and Multiple Handicap, 16 Fitztroy Square, London WIP 5HQ, England. The service provides a listing of newly published journal articles; new books are listed every 2 months; and there is a monthly guide to forthcoming professional meetings in the field. Request a Publications List from Denise McKnight, Information Officer.

Current Index to Journals in Education (monthly), Macmillan Information, A Division of Macmillan Publishing Corporation, Inc., 216R Brown Street, Riverside, New Jersey 08075.

Dissertation Abstracts, University Microfilms, Ann Arbor, Michigan 48103. (Gives synopses of U.S. doctoral dissertations with an annual index.)

dsh Abstracts, Deafness, Speech and Hearing Publications, Gallaudet College, Washington, D.C. 20002.

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ERIC Clearinghouse on Early Childhood Education, Publications Office, 805 West Pennsylvania Avenue, Urbana, Illinois 61801, publishes a quarterly newsletter; subscription, $2.00. Also available free, a List of Publications relating to children, ages 0 through 12.

Exceptional Child Education Abstracts (quarterly), The Council for Exceptional Children, Box 6034, Mid City Station, Washington, D. C. 20005.

Excerpta Medica Foundation, New York Academy of Medicine Building, 2 East 103rd Street, New York 10029, and 119-123 Herengracht, Amsterdam C, The Netherlands, has established an abstracting service on pediatrics, available on a yearly subscription basis. In addition to abstracts, the Foundation provides to subscribers, at cost, photocopies and translations of complete articles.

Health Economic Studies Information Exchange, Division of Medical Care Administration, Public Health Service, Washington, D. C. 20402.

Index Medicus, National Institutes of Health. Order from Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

Language and Language Behavior Abstracts (quarterly), Center for Research on Language and Language Behavior, University of Michigan, Ann Arbor, Michigan 48104. Order from Subscription Manager, LLBA, Meredith Publishing Co., 440 Park Avenue South, New York, New York 10016.

National Bureau of Child Welfare Library (Voor Kinderbescherming), Stadhouderslaan 150, The Hague, The Netherlands, publishes abstracts of articles in the field of child welfare each month. The articles are in Dutch, but those familiar with the Universal Decimal System would be able to understand something about the articles. The subscription rate for documentation on cards is 30 guilders (approximately $8.40).

National Easter Seal Society for Crippled Children and Adults Library has initiated a photoduplication service for persons engaged in rehabilitation research. It is available without charge to personnel in education or research institutions and health or welfare agencies, public or private. This service may provide professional literature that is not available in local libraries. For information, write: Librarian, National Easter Seal Society, 2023 West Ogden Avenue, Chicago, Illinois 60612.

Nutrition Abstracts and Reviews, Commonwealth Bureau of Animal Nutrition, Bucksburn, Aberdeen AB2 9SB, Scotland.

Poverty and Human Resources Abstracts (bimonthly), Institute of Labor and Industrial Relations, University of Michigan-Wayne State University, P. O. Box 1567, Ann Arbor, Michigan 48106.

Psychological Abstracts, American Psychological Association, 1333 — 16th Street, N.W., Washington, D. C. 20036.

Rehabilitation Literature, National Easter Seal Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Illinois 60612.

Research in Education (monthly), Computer Microfilm International Corporation, P. O. Box 190, Arlington, Virginia 22210.

Science Information Exchange, Smithsonian Institution, 209 Madison National Bank Building, 1730 M Street, N.W., Washington, D. C. 20036 provides to qualified investigators, for a fee, selected abstracts of current research supported by foundation or government grants. The exchange covers such fields as medicine, nursing, public health, nutrition, psychology, education, anthropology, mental health, and intercultural relations.

Sociological Abstracts, 15 East 31st Street, New York, New York 10016.

Chicago Psychoanalytic Literature Index (quarterly). Institute for Psychoanalysis, 180 North Michigan Avenue, Chicago, Illinois 60601. Annual subscription: $50 postpaid ($55 outside U.S.).

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Bibliography on the Battered Child, revised July 1969. Copies free from the Children's Bureau, Office of Child Development, U.S. Department of Health, Education, and Welfare, Washington, D.C. 20201.

Research Relating to Emotionally Disturbed Children, 1968. A listing of studies reported to the Clearinghouse between 1956 and 1967, including publication references. Single copies free from the Children's Bureau; also available *directly* from the Government Printing Office, Washington, D.C. 20402, for $1.00. Do *not* send money to the Children's Bureau.

Research Relating to Mentally Retarded Children, 1966 (reprinted 1968). A listing of studies reported to the Clearinghouse between 1948 and 1965, including publication references. Single copies free from the Children's Bureau; also available *directly* from the Government Printing Office for 65 cents. Do *not* send money to the Children's Bureau.

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